Installation/Service Manual for:

L200UARS
Ultra
Series 05
and
Series 06

Commercial Wheelchair Lifts

Including Models:

- L205UARS
- L205U64ARS
- L208U64ARS
- L208UARS
- L211U58ARS
- L211U64ARS
- L211U70ARS
- L211U325170

and Special Order Ultra Series Lift Models

Ultra

THE BRAUN CORPORATION®
"Providing Access to the World"®
International Corporate Hdqrs: P.O. Box 310 Winamac, IN 46996 USA
1-800-THE LIFT (574) 946-6153 FAX: (574) 946-4670

See inside cover for warranty and registration information.

WARNING
Manual
Read manual before installing or servicing lift. Failure to do so may result in serious bodily injury and/or property damage.

25783
March 2002

Congratulations

We at The Braun Corporation wish to express our fullest appreciation on your new purchase. With you in mind, our skilled craftsmen have designed and assembled the finest lift available.

This manual includes safety precautions, installation instructions, maintenance instructions and instructions for troubleshooting, if needed.

Braun L200UARS Ultra Series lifts are built for dependability and will provide years of pleasure and independence as long as the lift is installed and serviced as specified by a Braun certified technician, and the lift is operated by an instructed person.

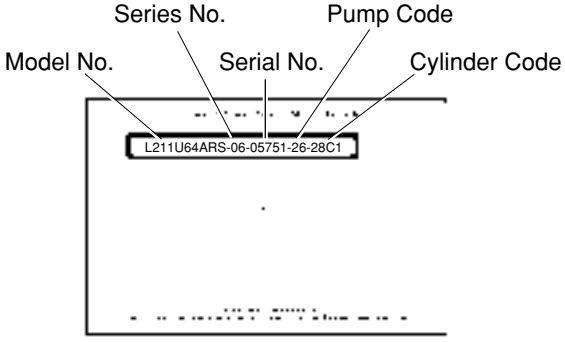
Sincerely,
THE BRAUN CORPORATION

Ralph W. Braun
Chief Executive Officer

Warranty and Registration Instructions

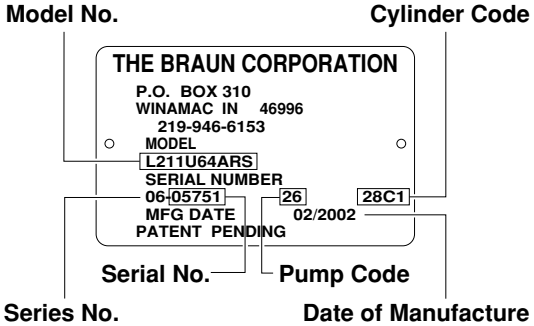
Immediately upon receiving the lift, examine the unit for any damage. Notify the carrier at once with any claims.

Two warranty/registration cards (shown right) are located in the lift-mounted owner's manual storage pouch. The sales representative must process one of the cards. The consumer must fill out the other card and mail it to The Braun Corporation. The warranty is provided on the back cover of this manual. The **warrenty cards must be processed to activate the warrenty.**



Sample Warranty/Registration Card

The Braun Serial No./Series No. identification tag (shown below) is located on the opposite pump side upright. This I.D. tag contains the product identification information provided on the Warranty/Registration card. Record the information in the space provided (or document on a copy). **This information must be provided when filing a warranty claim or ordering parts**.



Sample Serial No./Series No. Identification Tag

Model No. _____

Series No. _____

Serial No. _____

Pump Code _____

Cylinder Code _____

Date of Manufacture _____

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Preventive Maintenance

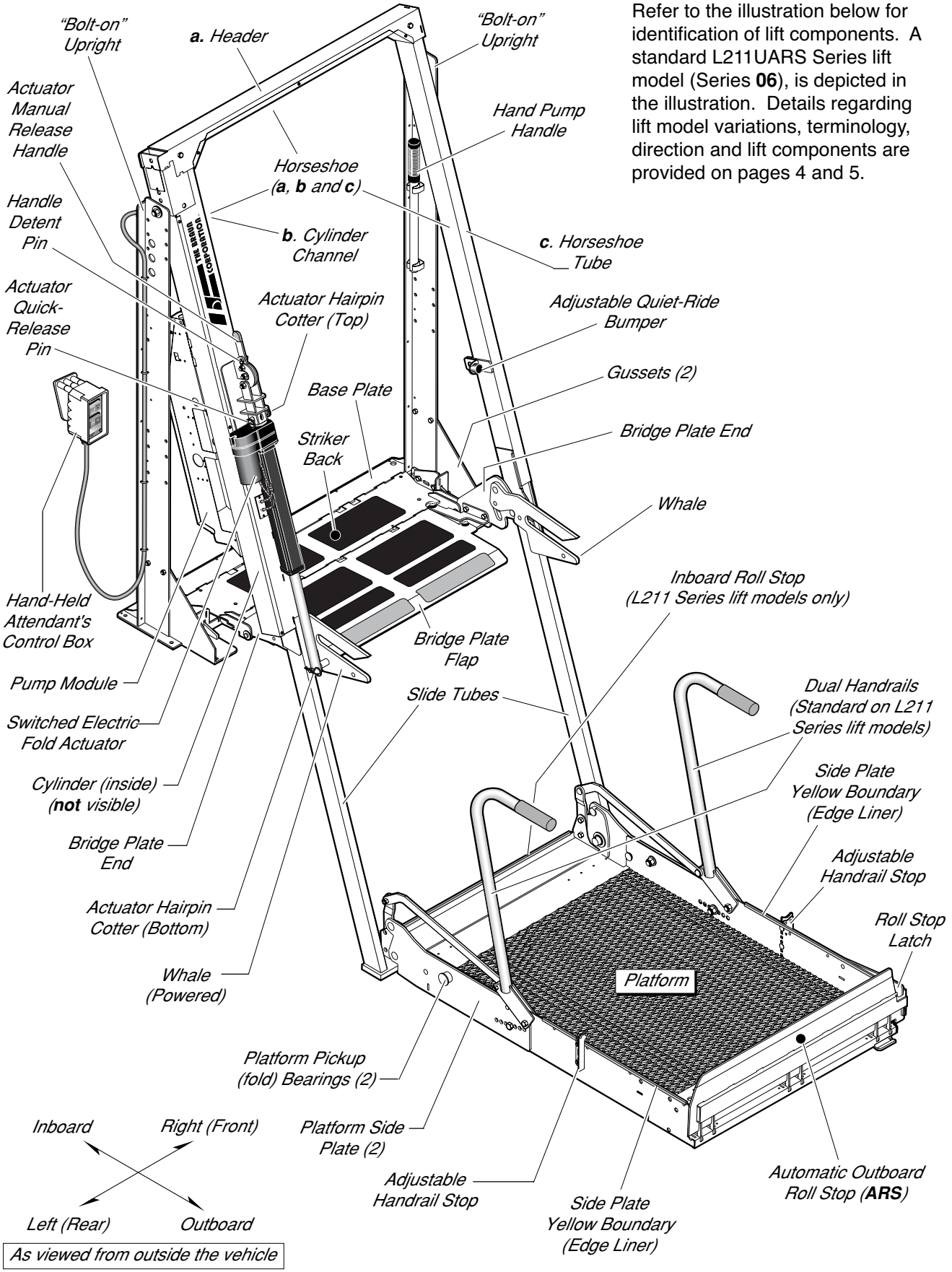
A generic **Daily Preventive Maintenance Checklist** is provided in this manual (next to last page) for your transit agency's use. The form can be tailored to your particular application.

Installation Notice

A generic **Lift Installation Checklist** is the last page in this manual. Complete, remove (tear out) and forward the Installation Checklist to your customer to confirm that this lift has been properly installed.

Lift Terminology

Refer to the illustration below for identification of lift components. A standard L211UARS Series lift model (Series **06**), is depicted in the illustration. Details regarding lift model variations, terminology, direction and lift components are provided on pages 4 and 5.



Lift Terminology

⚠WARNING

Read this manual, supplement(s) and lift-posted operating instructions decals before performing installation, operation or service procedures. Failure to do so may result in serious bodily injury and/or property damage.

Introduction

L200UARS Series lifts are commercial oriented (intended for operation by an attendant). L200UARS Series lifts are installed in various types of transit vehicles with varying lift access door configurations. The L200UARS Lift Series includes many standard lift models that vary in height and width. A standard L211UARS Series lift model is depicted in the Lift Terminology Illustration. Lift model numbers indicate lift dimensions. Model numbers of special order (nonstandard) lifts include other identification information exclusive to specific applications.

Series **06** (effective January 1999) lift models and Series **05** lift models are addressed in this manual. The most commonly used lift models (applicable for standard door openings), are addressed in the repair parts sections of this manual. Other size and special order lift models are not included.

Mirrored L211UARS Lift Models: There are a few nonstandard lift models that feature some or all lift components positioned on the opposite side of the lift (mirrored). These lift models are referred to as “mirrored.” Special order “mirrored” lift models are not addressed in this manual.

Contact The Braun Corporation at 1-800-THE LIFT when servicing a lift model not referenced in this manual.

Lift installation and lift operation procedures are the same for all L200UARS Series lift models. Read and become familiar with the lift operating instructions appearing on lift-posted operating instructions decals and the lift installation instructions contained in this manual (and supplements if included), before beginning installation, operation or service procedures.

Terminology: Become familiar with the terminology that will be used throughout this manual. Become familiar with lift components and their functions. Refer to the Lift Terminology Illustration for identification of lift components.

Direction: The terms "left (rear)," "right (front)," "inboard," and "outboard" will be used throughout this manual to indicate direction (as viewed from outside the vehicle looking directly at the lift). Refer to the Lift Terminology Illustration for clarification of direction terms.

Contact your lift sales representative or call The Braun Corporation at 1-800-THE LIFT if any of this information is not fully understood.

Lift Components

Refer to the Lift Terminology Illustration on page 2.

Lift Frame (Base Plate and Upright Assembly): The main lift frame consists of the base plate weldment (with two gussets), two bolt-on uprights, the striker back assembly, the bridge plate flap and two folding whales. The base plate and upright assembly supports the lift horseshoe and platform assembly. The rod end (bottom) of the electric fold actuator is mounted to the left side (rear) whale.

Bridge Plate: The bridge plate assembly consists of the striker back and the bridge plate flap. The independent hinged bridge plate flap bridges the gap between the lift platform and the vehicle floor when the platform is positioned at floor level.

The bridge plate travels from the stowed position to the bridging (horizontal) position as the lift platform unfolds and vice versa.

Whales: L200UARS Series lifts are equipped with two folding whales. The jaws of the whales engage the platform pickup bearings to fold and unfold the platform (one bearing located on each side of the platform). The rod end (bottom) of the electric fold actuator is mounted to the rear whale to power the fold and unfold functions. The front side whale and bearing keep the lift in alignment (unison).

Lift Terminology

Lift Components (continued)

Refer to the Lift Terminology Illustration on page 2.

Horseshoe: The lift horseshoe is the U-shaped metal frame consisting of the header (top crossmember), the cylinder channel on the left and the horseshoe tube on the right. The horseshoe contains and protects the platform slide tube assembly, the hydraulic cylinder and the lifting chain assemblies.

The pump module is mounted to the inboard face of the cylinder channel. The motor end (top) of the electric fold actuator is mounted to the outboard face of the cylinder channel. The horseshoe pivots on two shoulder bolts as the lift unfolds and folds.

Pump Module: The lift-mounted pump module consists of the hydraulic pump, the manual hand pump and electrical components that power the lift electric/hydraulic systems.

Hand-held Control Switchbox: The hand-held control switchbox is connected to the pump module. The control box is equipped with two color-coded rocker switches labeled UNFOLD (Out), FOLD (In), UP and DOWN. The switches activate the powered lift functions.

Fold Actuator: The electric motor-driven actuator folds and unfolds the platform when the FOLD (In)/UNFOLD (Out) switch is activated. The platform must be in the fully-raised position before the platform can be unfolded or folded.

Series **06** (effective January 1999) and newer lift models are equipped with an Acme screw actuator featuring built-in shutoff switching. This feature reduces the potential of actuator damage occurring when lift attendants fail to unfold the platform fully before lowering and raising the platform.

Series **05** lift models are equipped with an Acme screw actuator or a ball screw actuator. Series **05** actuators feature a built-in overload clutch that slips (ratchets) when reaching load capacity. When unfolding a Series **05** lift platform, the lift operator **must continue to press the UNFOLD switch until the actuator ratchets** (makes audible clicking). The clicking sound indicates the powered whale is fully unfolded (deployed). Failure to fully deploy the whale **can result in lift damage**.

Further details regarding all types of actuators are provided in the Systems Descriptions section.

Slide Tube Assembly: The slide tube assembly carries the platform assembly as it lowers and raises. The slide tube assembly consists of two telescoping slide tubes connected to chain assemblies that travel up and down inside the horseshoe, the bottom support crossbar and two platform mounting plates.

Platform Assembly: The lift platform carries the wheelchair passenger (or standee) up and down from the loading surface to the vehicle floor. The lift platform assembly consists of the frame with grating surface upon which the wheelchair is positioned, the inboard roll stop (L211UARS lift models), the outboard roll stop and the handrails (if equipped).

Dual Handrails: Dual handrails are provided for wheelchair passenger (or standee) use (standard on L211UARS Series lift models). The handrails are mounted on the platform and pivot as the lift unfolds and folds.

Outboard Roll Stop: The outboard roll stop is the automatic chain-driven outer barrier that provides a ramp for wheelchair loading and unloading at ground level.

Roll Stop Latch: The spring-loaded latch locks the outboard roll stop in the vertical position when the platform raises above ground level.

Inboard Roll Stop: L211UARS Series lift platforms are equipped with a fixed inboard roll stop. Attendant operation is not required for operation.

Manual Operation Systems: Manual operation systems are provided for use in event of power or equipment failure. Standard L200UARS Series lift models are equipped with an “over-center” fold actuator manual release system to allow the lift platform to be manually unfolded and folded. A manual backup hand pump is built into the pump module. The lift platform can be lowered and raised using the hand pump.

Installation/Service Safety Precautions

⚠WARNING

If installation, maintenance or repair procedures cannot be completed exactly as provided in this manual or if the instructions are not fully understood, contact The Braun Corporation immediately. Failure to do so may result in serious bodily injury and/or property damage.

⚠WARNING Read this manual, supplement(s) and lift-posted operating instructions decals before performing installation, operation or service procedures.

⚠CAUTION Minimum clear door opening dimensions specified in Lift Dimensions per lift model must be provided.

⚠WARNING Remove any obstructions within the lift mounting/operating area prior to beginning installation procedures.

⚠WARNING 1/8" minimum clearance must be provided between deployed lift bridge plate and any obstruction on the vehicle floor.

⚠WARNING A minimum of three people required to place the lift in the vehicle if hoist is not available.

⚠WARNING Do not fold or unfold the platform prior to positive securement of the lift top mounting brackets.

⚠WARNING Raise and fold the platform to stowed position before removing temporary securement (clamps) to shift lift position.

⚠WARNING Check for obstructions such as gas lines, wires, exhaust, etc. before drilling or cutting during installation procedures.

⚠WARNING Route all cables clear of exhaust system, other hot areas, moving parts, wet areas, etc.

⚠WARNING Risk of electrical shock or fire! Use extra care when making electrical connections. Connect and secure as outlined in Installation Instructions and Wiring Diagrams.

⚠WARNING Coil and secure excess lift power cable under hood, in battery tray, or other protected area if not cut to length — clear of hot areas, moving parts, or other potentially dangerous conditions.

⚠WARNING Top lift mounting brackets must be bolted directly to lift uprights and vehicle wall. Do not use spacers.

⚠WARNING Meet all lift positioning and clearance specifications as detailed in the Positioning and Clearance Checklist before operating lift with passenger.

⚠WARNING Adjust platform angle as detailed in this manual before operating lift with passenger.

⚠WARNING Whenever adjusting the platform angle or retrofitting a platform:

- Platform must be fully lowered prior to loosening or removing flanged lock nuts
- Flanged lock nuts must be discarded if loosened or removed
- Discarded lock nuts must be replaced with replacement nuts provided in lift installation package.

⚠WARNING Maintenance and repairs must be performed only by authorized service personnel.

⚠WARNING Perform maintenance and lubrication procedures exactly as outlined in the Maintenance and Lubrication Schedule contained in this manual.

⚠WARNING Disconnect the power cable at the battery prior to servicing.

Installation/Service Safety Precautions

⚠WARNING Never modify (alter) a Braun Corporation lift.

⚠WARNING Replacement parts must be Braun authorized replacements.

⚠WARNING Never install screws or fasteners (other than factory installed) into the lift.

⚠WARNING Whenever replacing a hydraulic cylinder or seals, lower platform fully.

⚠WARNING The lift owner's (operators) manual must be in the lift-mounted manual storage pouch when the consumer receives the lift.

⚠WARNING Failure to follow these safety precautions may result in serious bodily injury and/or property damage.

Pre-Installation Notes

⚠WARNING

Read this manual, supplement(s) and lift-posted operating instructions decals before performing installation, operation or service procedures. Failure to do so may result in serious bodily injury and/or property damage.

❑ **Installation Requirements:**

Braun L200UARS Series lifts must be installed and serviced by a Braun authorized service representative who has attended and been certified by The Braun Corporation Sales and Service School for Braun Mobility Products.

Read and become familiar with the lift operating instructions appearing on lift-posted operating instructions decals and the lift installation instructions contained in this manual before beginning installation, operation or service procedures.

❑ **Minimum Clear Door Opening Requirements:**

Minimum Clear Door Opening Dimensions are defined as finished door opening, including any intrusive door jambs, headers, sills or hinges. Any intrusive obstructions within the Clear Door Opening **must** be removed.

Open the door(s) **fully** and check the clear door opening dimensions. **Minimum clear door opening dimensions specified in Lift Dimensions per lift model must be provided.** See the Lift Dimensions section for a complete listing of minimum clear door opening dimensions applicable to your lift model.

Braun Bus Door Kits: Braun Retrofit Bus Door Kits are available to provide the required clear opening dimensions. Contact your Braun sales representative or consult the factory for kit part numbers.

Van Applications: The required minimum clear door opening height varies depending on the particular lift model. Braun Raised Top Kits and Raised Door Kits are available to provide the minimum required clear door opening dimensions. Contact your Braun sales representative or consult the factory for kit part numbers.

⚠CAUTION

Minimum clear door opening dimensions specified in Lift Dimensions per lift model must be provided. Failure to do so may result in property damage.

❑ **Stepwell Installations:**

When installing an L200UARS Series lift in the side cargo door (with stepwell), it is **not** permissible for the portion of the base plate supporting the lift uprights to overhang the stepwell. Additional base plate support **must** be constructed in the stepwell for lift support if any part of the base plate supporting the lift uprights overhangs the open stepwell. See page 13 for details.

❑ **Rear Door Installations:**

When installing a lift in the rear door of some van-type vehicles, the rear bumper may be an obstruction when the platform is

Pre-Installation Notes

lowered. Antidrift Wedges and the Quiet-Ride Bumper can be adjusted to allow the unit to be positioned closer to the door opening (details on page 23). Doing so will provide adequate bumper clearance in **some applications**.

Bumper modification and/or replacement kits are available to accommodate **some** installations **if needed** (to provide adequate clearance between lift and vehicle).

Rear Bumper Kits

Vehicle	Years	Kit Number
Chevy/GMC	96 and Up	19395A96
Dodge	94-97	16327A
Dodge	98 and Up	16327A98

❑ **Obstructions:**

Any obstructions on the floor at the door opening taller than 1" (such as a rubber sill or threshold) will require the unit to be raised above the floor. Steel or plywood shims may be used for this purpose. Shim material **must be sized equal to the entire base plate surface** with all mounting hardware penetrating base plate, shim(s) and vehicle floor.

There **must be a minimum 1/8" clearance between the deployed bridge plate assembly and any obstruction on the floor**. See Figure R on page 21.

⚠WARNING

Remove any obstructions within the lift mounting/operating area prior to beginning installation procedures. Failure to do so may result in serious bodily injury and/or property damage.

Any obstructions within the door opening (such as additional seats, molding, lights, brackets, etc.), as well as any obstructions within the lift mounting and operating area, **must be removed**. Plastic, rubber or metal molding that creates an uneven mounting surface should be removed. The molding can be modified to fit around the base plate following lift installation procedures.

❑ **Platform Drift:**

During shipment, the lift backup manual hand pump valve could potentially be jarred loose. A hand pump valve that is not fully tightened can result in hydraulic fluid seepage. Hydraulic fluid seepage can result in platform drift (failure to hold the platform in the fully-raised position).

Platform drift can result in the fold actuator microswitch not being activated by the hydraulic cylinder clevis (clevis moves off switch due to drifting). If the fold actuator microswitch is not activated, the lift will not unfold or fold when the FOLD/UNFOLD switch is pressed.

With the unit remaining on the installation facility floor, remove the clear plastic shipping wrap. Using the hand pump handle, **close** (turn clockwise) the **manual backup pump valve securely**. Insert the handle in the hand pump and stroke until no further stroke is available (stops). This procedure will ensure that the cylinder clevis is properly positioned to activate the fold actuator microswitch. Refer to lift-posted Manual Operating Instructions for further manual operating details.

❑ **Recommended Installation Sequence:**

Temporarily secure the lift as outlined in Step 2 of the Installation Instructions, connect lift power, mount the control box and test lift operation to **be certain** the lift is properly positioned and clearance is adequate **before drilling mounting holes and bolting permanently**. Review the **Positioning and Clearance Checklist** on pages 20-22 to be certain the lift is properly positioned and clearance is adequate.

❑ **Chassis Ground Notice (Mounting Bolt Ground):**

The lift **must be properly grounded** for proper operation. When installing through-floor mounting bolts, remove (grind, sand, etc.) powder coating (paint) from the area around one or more lift base plate mounting hole(s) and remove any undercoating, dirt, rust, etc. from the underside of the vehicle floor metal surface equal in size to the mounting hardware in order to provide **optimum ground** to the electrical system. Apply a protective coating of grease to the mounting hole(s) and underside of the vehicle where bare metal is exposed to prevent corrosion. **Failure to follow this procedure will void warranty of certain electrical components**.

❑ **Lift Installation Checklist**

A generic **Lift Installation Checklist** is provided as a final installation checklist. The checklist is the last page in this manual. The lift installer should complete, remove (tear out), and forward the Lift Installation Checklist (or a copy), to your customer to confirm that the lift has been properly installed.

Lift Installation Instructions

Installation Parts

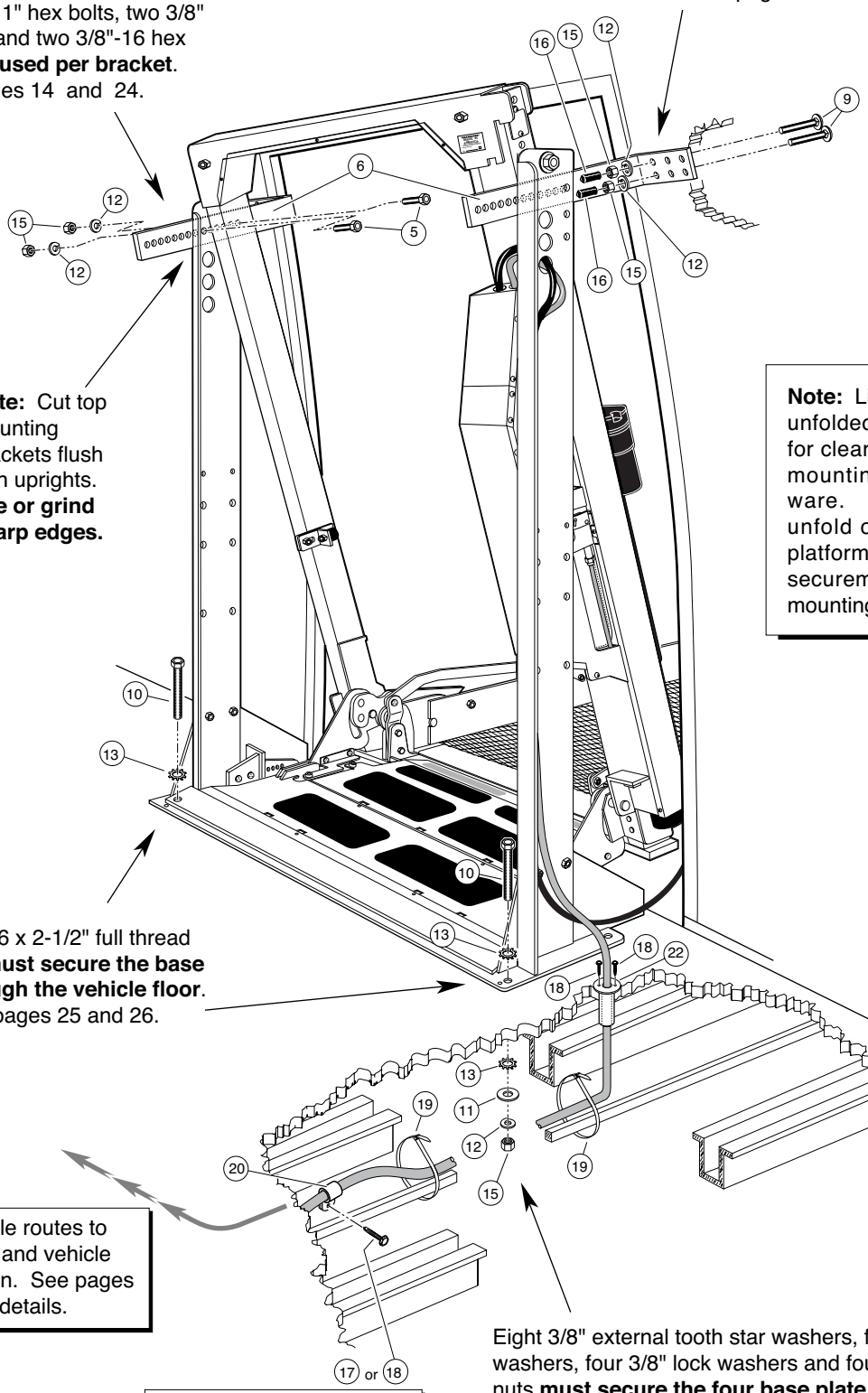
Please check the Installation Parts List to see that you have everything needed to begin. Report any missing items.

			Non-L211 (Non-ADA)		L211 (ADA)	
Item	**Qty.**	**Description**	**Series 05**	**Series 06**	**Series 05**	**Series 06**
	1	Installation Parts Package (**complete**) Includes **all** following items	208-2040-05	208-2040-06	211-2040-05	211-2040-06
1	1	Padding Kit (Includes items 2-4)	12333A	12333A	12333A	12333A
2	1	Padding, Upright	14164A	14164A	14164A	14164A
3	1	Padding, Bump Guard	14163A	14163A	14163A	14163A
4	1	Padding, Header Cover	13419A	13419A	13419A	13419A
5	1	Parts Box **only** (Includes items 6-36)	208-2000-05	208-2000-06	211-2000-05	211-2000-06
6	2	Bracket, "L" (Top Mounting) ✔ See **Note** below	11225	11225	11225	11225
7	1	Small Parts Bag **only** (Includes items 8-25 **only**)	11339A	11339A	11339A	11339A
8	5	Bolt, 3/8"-16 x 1", Hex ✔ See **Note** below	10025	10025	10025	10025
9	4	Bolt, 3/8"-16 x 3-1/2", Carriage	12179	12179	12179	12179
10	4	Bolt, 3/8"-16 x 2-1/2", Hex Tap (Full Thread) ✔ See **Note** below	13130	13130	13130	13130
11	8	Washer, 3/8", Flat	10064	10064	10064	10064
12	12	Washer, 3/8", Lock	10069	10069	10069	10069
13	8	Washer, External Tooth (Star)	25844	25844	25844	25844
14	4	Nut, 1/2"-13, Washer Head-Lock,(Flanged) ✘ See **Note** below	15704	15704	15704	15704
15	12	Nut, 3/8"-16, Hex ✔ See **Note** below	10059	10059	10059	10059
16	4	Cap, Vinyl	12663	12663	12663	12663
17	17	Screw, #8-18 x 1/2", Self-Tap	10383	10383	10383	10383
18	8	Screw, #8-18 x 1", Self-Tap	10084	10084	10084	10084
19	14	Cable Tie, 11", Solid	10091	10091	10091	10091
20	9	Clip, Cable, 7/16" Diameter, Plastic	15777	15777	15777	15777
21	1	Grommet, 1/2" I.D., Rubber	10088	10088	10088	10088
22	1	Grommet, Plastic	205-2001	205-2001	205-2001	205-2001
23	1	Spacer, 13/32" I.D. x 1/2" *See Circuit Sentry Installation*	13050	13050	13050	13050
24	1	Terminal, Battery Cable, 1/4" eye	13865	13865	13865	13865
25	4	Rosette, (Padding Mount)	11335	11335	11335	11335
26	1	Lead Wire (Battery Cable) - 30" *See Circuit Sentry Installation*	13362A	13362A	13362A	13362A
27	1	Circuit Sentry Assembly *See Circuit Sentry Installation*	18189A	18189A	18189A	18189A
28	1	Plastic, Flat, 1/8" x 4" x 4" *See Circuit Sentry Installation*	12764	12764	12764	12764
29	1	Control Box Holder Assembly (Includes items 17 - Qty: 4, 30 and 31)	17019A	17019A	17019A	17019A
30	1	Plate, Back	16988	16988	16988	16988
31	1	Bracket, Switchbox Clip	16954	16954	16954	16954
32	2	Decal, Courtesy Requested	12375	12375	12375	12375
33	1	Decal, Warnings and Lift Operating Instructions	25857	25858	25857	25858
34	1	Decal, Instructions, ADA/Interlock	NA	NA	19342	19342
35	1	Video, Lift Operation	23554	23554	23554	23554
36	1	Installation/Service Manual	25783	25783	25783	25783
37	2	Grip, Handrail, Yellow	NA	NA	19074	19074

✔ **Note:** Specific quantities of these items are used for shipping purposes — See "Shipping Hardware" on page 10 for details.

✘ **Note:** Flanged lock nuts are provided for platform leveling or retrofit — See "Platform Angle Adjustment" on pages 30 and 31. **Keep for future use!**

Figure A


Two 3/8"-16 x 3-1/2" Carriage bolts, two 3/8" lock washers and two 3/8"-16 hex nuts **must be used per bracket**. Details on page 24.
Two 3/8"-16 x 1" hex bolts, two 3/8" lock washers and two 3/8"-16 hex nuts **must be used per bracket**. Details on pages 14 and 24.
Note: Cut top mounting brackets flush with uprights. **File or grind sharp edges.**
Note: Lift shown in unfolded position for clear view of mounting hardware. **Do not** unfold or fold platform prior to securement of top mounting brackets.
Four 3/8"-16 x 2-1/2" full thread hex bolts **must secure the base plate through the vehicle floor**. Details on pages 25 and 26.
Lift power cable routes to Circuit Sentry and vehicle battery location. See pages 16 and 17 for details.
See **Chassis Ground Notice** on page 25 **before** installing mounting bolts.
Eight 3/8" external tooth star washers, four 3/8" flat washers, four 3/8" lock washers and four 3/8"-16 hex nuts **must secure the four base plate mounting bolts below the vehicle floor**. Details on pages 25 and 26. Base plate bolt securement pattern **typical for all four** mounting bolts.

Lift Installation Instructions

Shipping Hardware Notice

To prevent damage to the lift pump module and fold actuator, **do not remove the "L" brackets until the lift is placed in the vehicle.**

The two top "L" mounting brackets are fastened to the "rear" lift upright to protect the pump module and fold actuator during shipment. The "L" brackets are used to secure the top of the lift uprights and **must** be kept for installation purposes.

Two 3/8"-16 x 2-1/2" full thread bolts, one 3/8"-16 x 1" bolt and the three 3/8"-16 nuts **must** be kept for installation purposes. The two 1-3/8" spacers are used for shipping purposes **only** and can be discarded.

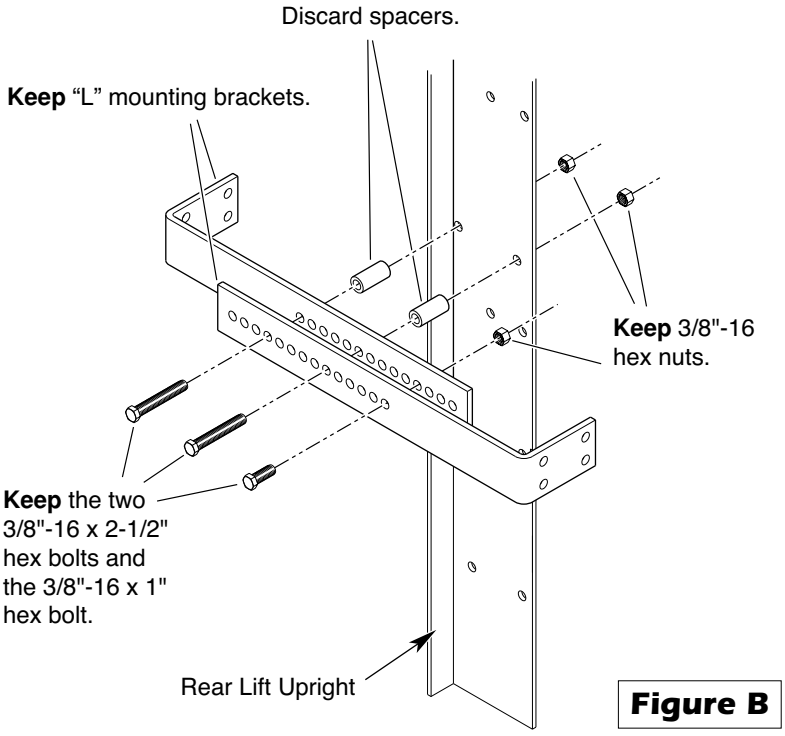

Discard spacers.
Keep "L" mounting brackets.
Keep 3/8"-16 hex nuts.
Keep the two 3/8"-16 x 2-1/2" hex bolts and the 3/8"-16 x 1" hex bolt.
Rear Lift Upright

Figure B

1 Lift Positioning

Read the precautions posted below! Position the lift as outlined in this step. **Temporarily** secure the lift as outlined in Step 2. Connect the lift power as detailed on pages 16 and 17 and operate the lift to ensure proper lift positioning (adequate clearance) **before drilling mounting holes and bolting**. **Note:** It **may** be necessary to reposition the lift.

⚠WARNING

When positioning the lift:
- **lift must remain folded (vertical)**
- **minimum three people required if hoist is unavailable**

Failure to follow these rules may result in serious bodily injury and/or property damage.

Note: Be certain to read **all** Pre-Installation Notes **prior** to installation.

⚠WARNING

Do not fold or unfold the platform prior to positive securement of lift top mounting brackets. Failure to follow this rule may result in serious bodily injury and/or property damage.

Lift Positioning:

With the unit remaining in the fully folded position, **carefully** place the lift in the vehicle (**minimum three people required** if a hoist is unavailable).

Visually **center the unit in the opening** as shown in Figure C.

Position the base plate parallel (aligned with) the side of the vehicle (door sill) as shown in Figure D.

Note: Be certain the entire base plate is resting on the vehicle floor. See **Stepwell Installations** and Figure G on page 13.

All Installations: Close the vehicle door. From inside, position the unit as close to the door opening as possible while maintaining a **minimum clear-**

Lift Positioning (continued)

ance of **1/2"** between the nearest point on the lift and the door or door latch. See Figure G on page 13.

Control Box Note: The lift control box mounts to the inside face of the lift door. See Figure H on page 13. Allow control box clearance.

Clearance:

Pump Side: The lower portion of the cylinder channel **must** clear the door opening when the lift unfolds and folds. See Figure C.

The fold actuator must clear the door opening also. **Note:** See **Actuator Position** on page 13.

Opposite Pump Side: The lower portion of the "front" horseshoe tube **must** clear the door opening when the lift unfolds and folds. See Figure C.

Lift uprights **must** be parallel (aligned) with the vertical sides of door jamb and should be perpendicular (90°) to the vehicle floor.

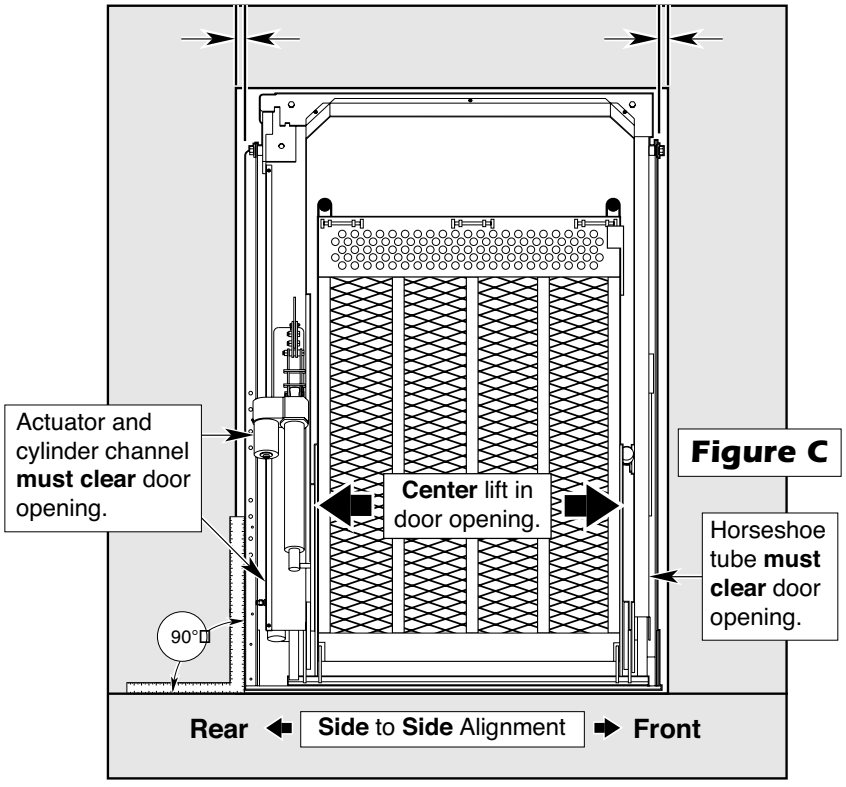


Figure C

Note: Inboard to **Outboard** Alignment shown on page 12.

Alignment:

Side-to-Side Alignment: As viewed from outside the vehicle, the lift uprights **should** be perpendicular (90°) to the vehicle floor **and must** be parallel with the sides of the door jamb as shown in Figure C.

Inboard-to-Outboard Alignment: When viewed from "rear" to "front," the uprights **must be aligned and parallel to each other** and the uprights **should** be perpendicular (90°) to the vehicle floor. See Figure E on page 12.

See **Bus (Straight Wall) Installations** and Figure F on page 12.

Note: See **Platform Side Plate and Whale Clearance** details on page 22 **before** permanent securement procedures.

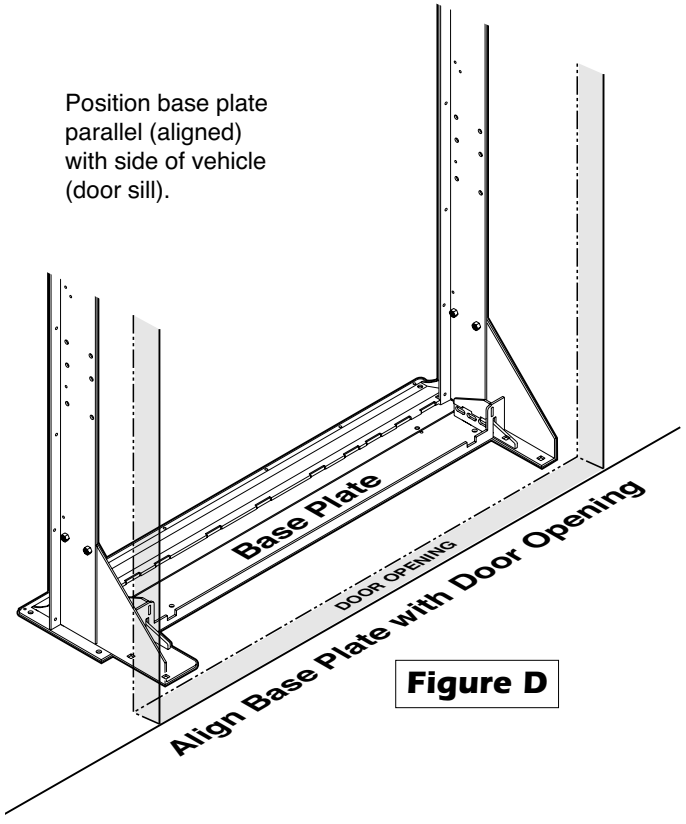

Position base plate parallel (aligned) with side of vehicle (door sill).
Base Plate
DOOR OPENING
Align Base Plate with Door Opening

Figure D

Lift Installation Instructions

1 **Lift Positioning** (continued)

Inboard ⬅ **Inboard** to **Outboard** Alignment. ➡ Outboard

- Lift uprights **must be parallel (aligned) with each other!**
- The uprights **should** be perpendicular (90°) to the vehicle floor.

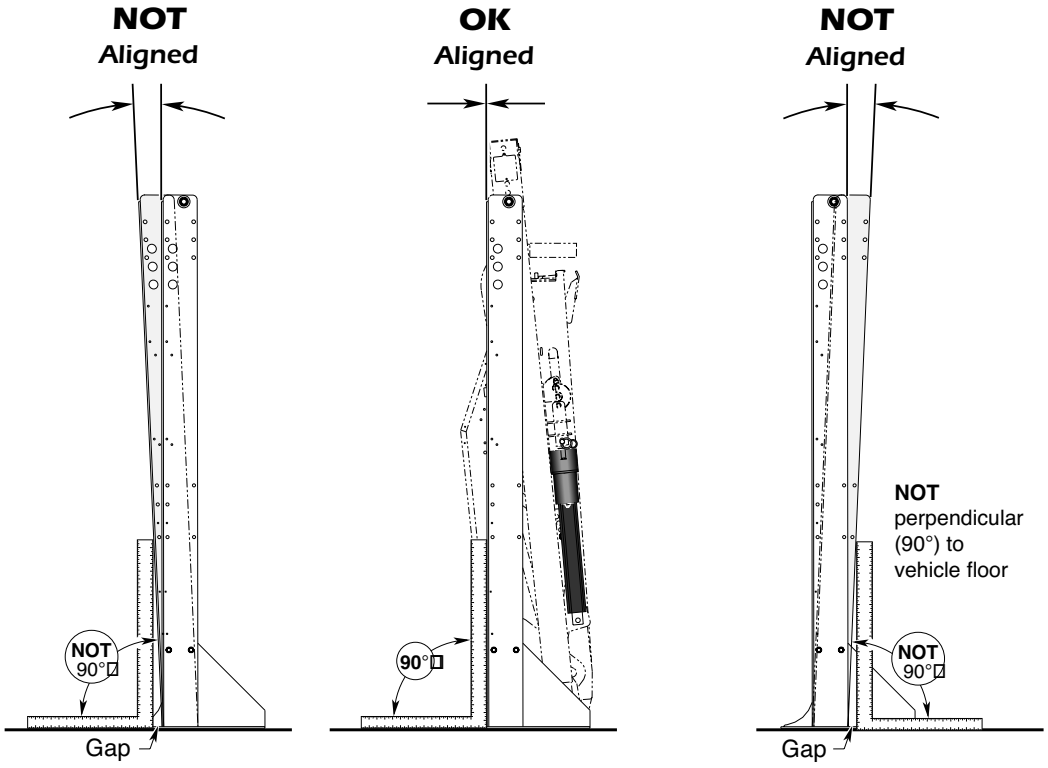


Figure E

NOT perpendicular (90°) to vehicle floor

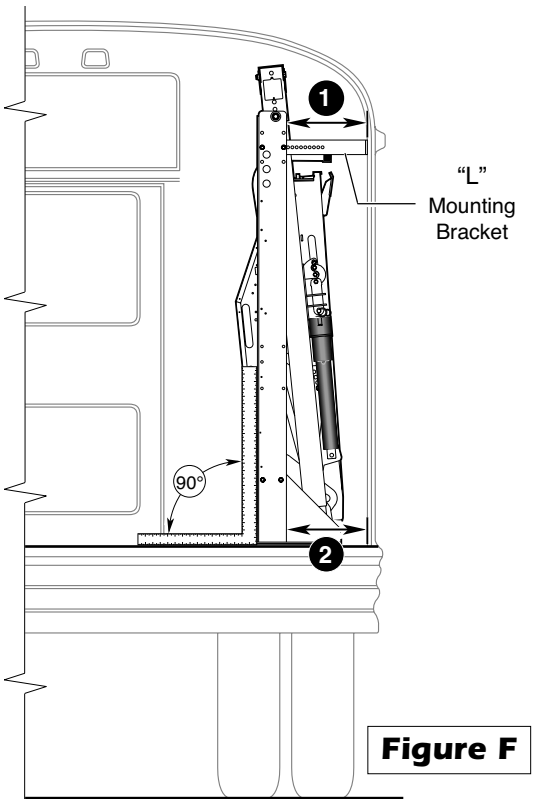


Figure F

Bus (Straight Wall) Installations: Follow this procedure to align uprights in vehicles with vertical (straight) walls from the floor to the top mounting bracket position (wall 90° to floor). See Figure F.

When temporarily positioning the lift as detailed in Step 2, position the top of both uprights (point 1) the same (equal) distance from the wall. Shift the base plate position in or out to achieve the same (equal) distance between the uprights and the wall at the base plate (point 2).

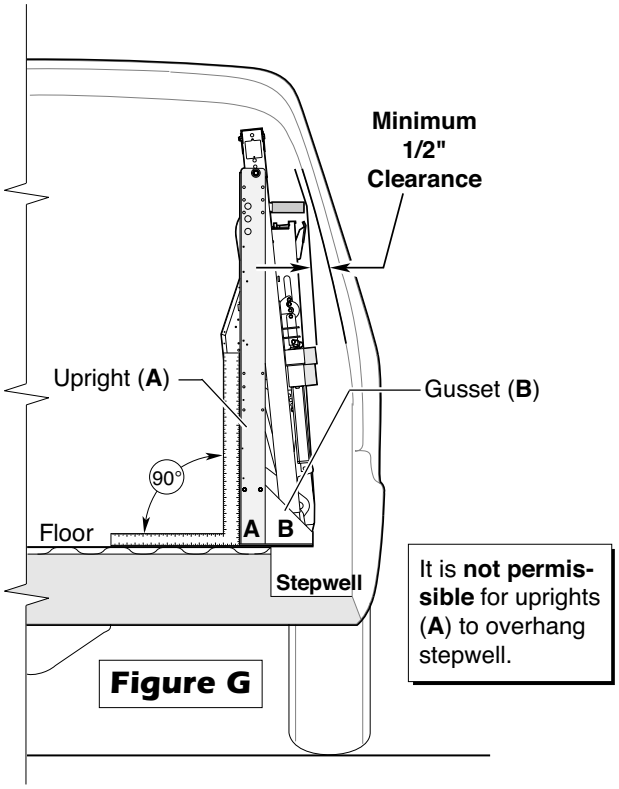


Figure G

Stepwell Installations: When installing an L200UARS Series lift in the side cargo door of a van-type vehicle (**with stepwell**), it is **not permissible** for the portion of the base plate supporting the lift uprights (portion **A**) to overhang the stepwell. It is permissible to allow the portion of the base plate extending beyond the lift uprights (portion **B**) to overhang the open stepwell.

Additional base plate support **must** be constructed in the stepwell for lift support if any part of the base plate supporting the lift uprights (portion **A**) overhangs the open stepwell. The structure **must** be level with the existing floor and of equivalent construction (structural strength).

Base plate mounting bolts (total of four) **must** be routed through the base plate mounting holes and the vehicle floor (or equivalent stepwell structure). Base plate mounting bolt details are provided on pages 25 and 26.

Control Box Note: The lift control box mounts to the inside face of the lift door as shown. Allow control box clearance. Control box installation details are provided on pages 18 and 19.

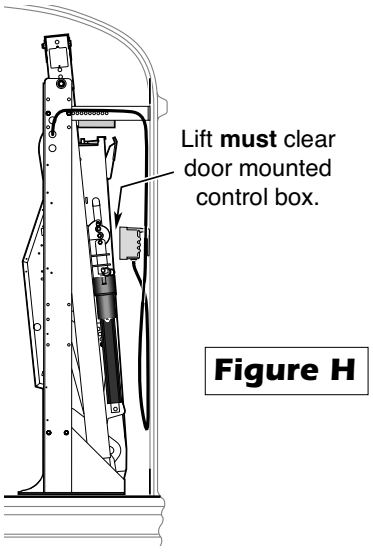


Figure H

Actuator Position: The fold actuator can be rotated from the rear-facing position to the side-facing position to allow the lift to be positioned further outward in **some applications** (depending upon relationship between lift and door opening). See pages 32 and 33 for **Actuator "Quick-Rotation" Instructions**.

Rear Facing Actuator

Side Facing Actuator

2 Temporary Securement

⚠WARNING

Do not unfold or fold the platform prior to positive securement of lift top mounting brackets. Failure to follow this rule may result in serious bodily injury and/or property damage.

⚠WARNING

Proceed with care. Lift securement is temporary at this time. Failure to do so may result in serious bodily injury and/or property damage.

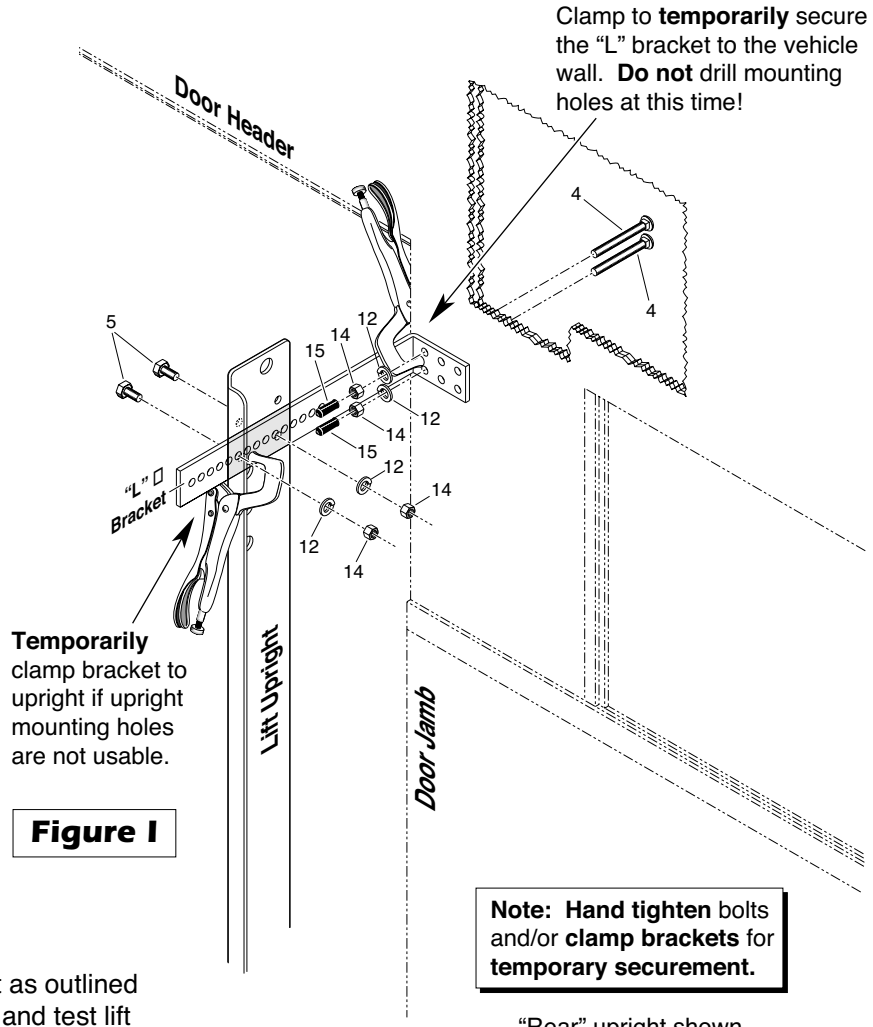


Figure I

"Rear" upright shown (typical both uprights).

Note: Temporarily secure the lift as outlined in this step, connect the lift power and test lift operation to **be certain** the lift is properly positioned **before drilling mounting holes and bolting**. Permanent Securement details are provided in Step 7.

Top "L" (Wall) Mounting Brackets:

Each lift is shipped with two "L" top mounting brackets. The "L" wall brackets are bolted through the vehicle wall and bolted to the lift uprights. Due to difference in vehicle door jamb configurations, "L" bracket positioning on the door jamb and securement is similar but does vary **per vehicle applications.** Find a suitable location on the door jamb to mount the wall brackets. A series of mounting holes are provided in both the lift uprights and the "L" brackets.

Note: It may be necessary to angle and/or otherwise modify (bend or shape) the brackets. It **may** also be necessary to drill alternate mounting holes in the mounting brackets or the lift uprights if the brackets are angled or shortened.

Two 3/8"-16 x 1" bolts (item 5), two 3/8" lock washers (item 12), and two 3/8" nuts (item 15) are provided to secure **each** bracket to **each** upright. Use identical holes in both uprights and brackets. Attach the brackets to the uprights as shown above and **hand tighten** the bolts **temporarily**.

Temporarily clamp the brackets to the lift uprights if the existing mounting holes are not usable. Use clamps to **temporarily** secure the wall brackets to the vehicle wall and/or uprights as shown. **Read precautions at left!**

2 Temporary Securement

The lift uprights **must be visually aligned (parallel) with each other** and should be perpendicular (90°) to the vehicle floor as shown in Figure E (page 12) and Figure J at right.

Straight-Wall Vehicles: Measure the distance between the uprights and the wall at the "L" mounting bracket location (Point **1**).

Carefully move the lift base plate in or out as necessary to achieve the same (equal) measurement between uprights and the wall at the base plate - Point **2** (**if** the vehicle wall is vertical from floor to "L" bracket). **Dimensions 1 and 2 must be equal**. **Temporarily** secure base plate as detailed below.

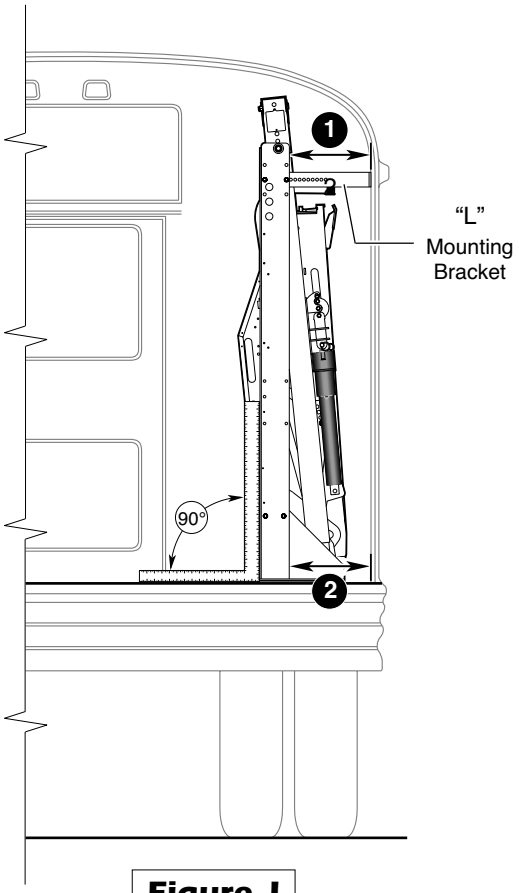


Figure J

Base Plate:

3/16" diameter holes are provided along the interior edge of the base plate. Install two #8-18 x 1" self-tap screws (**one at both ends** of the base plate) to **temporarily** secure the lift base plate.

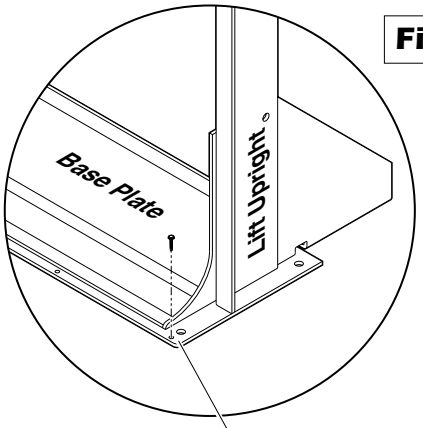


Figure K

Install minimun two #8-18 x 1" self-tap screws to **temporarily** secure base plate (**one at both ends**). Typical both ends.

3 Power Cable Routing and Securement

Note: Route, cut to length and connect the power cable **before** securing the cable to the vehicle.

⚠WARNING

Check for obstructions such as gas lines, wires, exhaust, etc. before drilling or cutting. Failure to do so may result in serious bodily injury and/or property damage.

⚠WARNING

Route power cable clear of exhaust system, other hot areas and moving parts. Failure to do so may result in serious bodily injury and/or property damage.

⚠WARNING

Coil and secure excess power cable under hood, in battery tray or other protected area if not cut to length. Failure to do so may result in serious bodily injury and/or property damage.

Grommets: One 1/2" I.D. rubber grommet (not shown) and one 1" I.D. plastic grommet are provided for the power cable access hole. Check under the vehicle to determine where the **optimum** power cable access can be gained with **minimum** obstructions.

Bus Installations: The recommended location is through the floor (pump side) **approximately** two to three inches from the base plate as shown. **Van/Stepwell Installations:** The installer **may** choose to route the cable through the vertical face of the stepwell **approximately** two to three inches below the base plate.

Read warnings posted at left! Use a 1-1/8" diameter hole saw to drill the grommet access hole if using the plastic grommet. Insert the grommet in the hole. Use two self-tap screws to secure the plastic grommet. Use a 13/16" diameter hole saw to drill the access hole if using the rubber grommet.

Read warnings posted at left! Locate the vehicle battery pack. Route the 37' power cable through the grommet to the battery location.

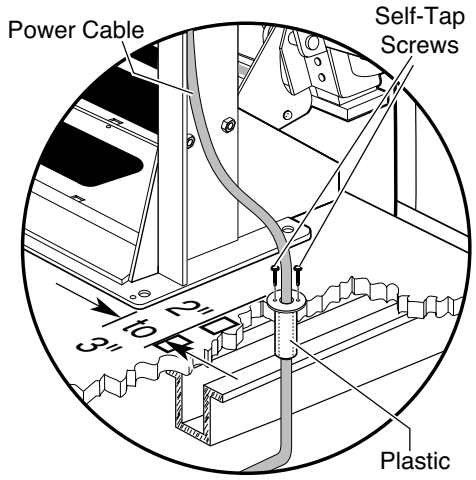


Figure L

Route the cable through an existing vehicle access hole at the battery pack location. Cut the lift cable to the necessary length, (it **must reach to within 24" of the battery**). Strip 1/2" of insulation from the cable end and crimp the 1/4" diameter terminal onto the cable **securely** (item 11 - Figure N).

Read warnings posted at left! If the installer chooses not to cut the power cable, excess cable should be coiled and fastened securely under the hood, in the battery tray, or other protected area — **clear of any hot areas, moving parts, or any other potentially hazardous conditions** for maximum protection.

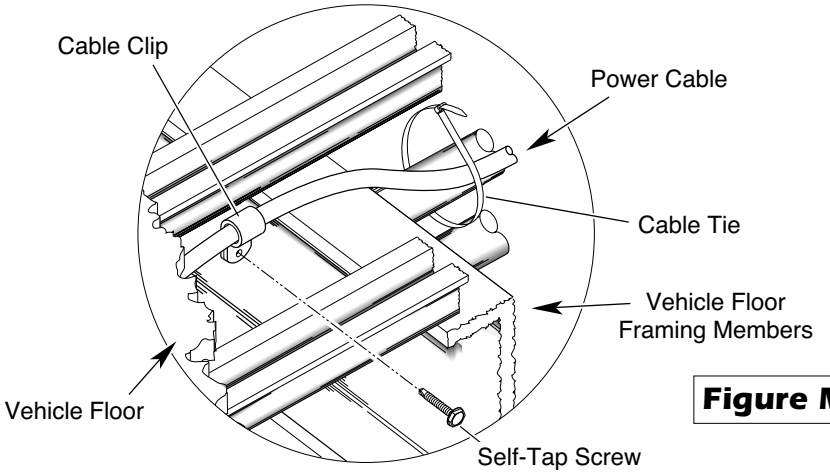


Figure M

4 Circuit Sentry Installation and Power Connection

Item	Qty.	Part No.	Description	Item	Qty.	Part No.	Description
1	1	18189A	Circuit Sentry Bkt. Assy. *includes:*	6	4	10383	Screw, #8-18 x 1/2" Self-Tap
2a	1	18180	• *Decal, Installation Instructions*	7	1	12764	Plastic, Flat,1/8" x 4" x 4"
2b	1	18181	• *Decal, 100 A Circuit Sentry Label*	8	1	13362A	Lead Wire, #2 Ga. x 30"
3	2	10377	• *Rivet, Pop, 3/16" x 5/8"*	9	1	13050	Spacer, 13/32" x 1/2"
*	*2*	*11541*	* *Washer, #10 Flat*	10	1	10025	Bolt, 3/8"-16 x 1" Hex
4	1	18178	• *Circuit Breaker, 100 A*	11	1	13865	Terminal, 1/4" Eye
5	1	18138	• *Bracket, Circuit Sentry*				

** Indicates items not shown*

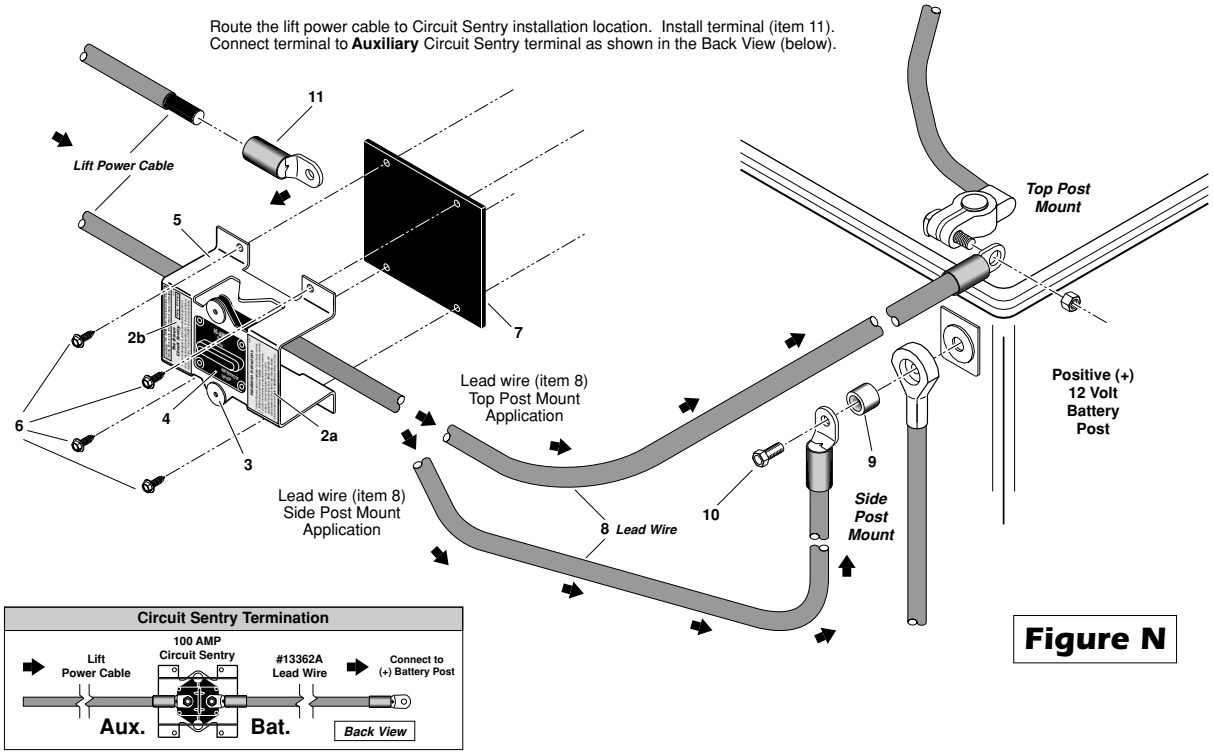
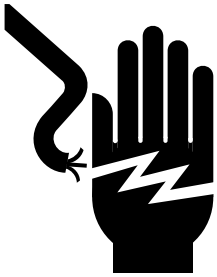


Figure N

Note: *Circuit Sentry #18190A is supplied for* ***24 Volt*** *Applications.*

⚠WARNING



Risk of electrical shock! Use extra care when making electrical connections.

⚠WARNING

Risk of electrical fire! Sandwich 1/8" plastic between Circuit Sentry and mounting surface.

Attach the power cable to the **Auxiliary** terminal of the circuit sentry as shown. Attach one end of the 30" lead wire (item 8 above) to the **Battery** circuit sentry terminal. Locate the circuit sentry within 24" of the positive (+) battery terminal and use self-tap screws to fasten it to the fenderwell or other appropriate mounting surface as shown. **Important:** Sandwich the 1/8" x 4" x 4" plastic between the circuit sentry and the mounting surface to prevent electrical short circuits.

Note: A 3/8"-16 x 1" bolt and 13/32" I.D. spacer are provided for side terminal mount batteries. Install as shown.

Carefully connect the opposite end of the 30" lead wire to the **Positive** (+) post of the battery.

Use cable ties and/or 7/16" cable clips and self-tap screws to secure the cable to the underside of the vehicle (shown in Figure M).

5 Control Box and Harness Installation

Control Box Mounting: The control box mounts to the inside face of the lift cargo door as shown in photo on page 19. Mounting location varies depending on lift/vehicle door applications. **Note:** Close the vehicle door and select a mounting location for the control box (**prior to fastening hardware**) to be certain the control box **does not** contact the lift platform. See Figure O.

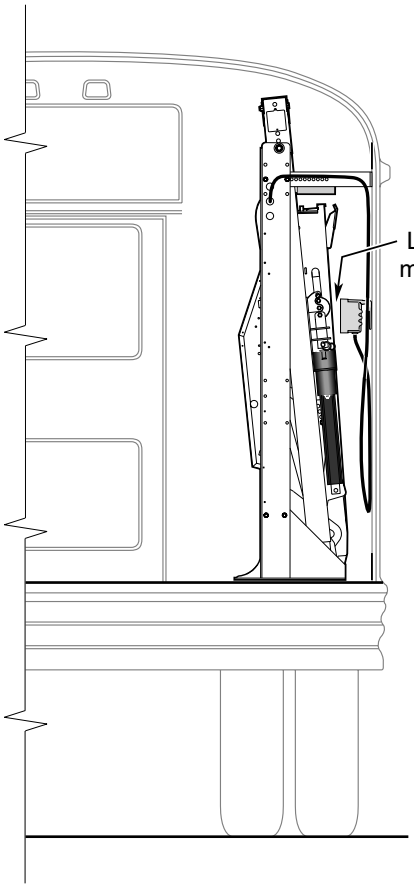


Figure O

Use four #8-18 x 1/2" self-tap screws to mount the control box holder back plate and the switch box clip storage bracket to the door as shown in Figure P below. Insert control box storage clip in holder assembly.

Control Box Storage Clip Breakage Note: Position the smooth-edged surface of the back plate **out** (surface with burr edge against the mounting surface). One surface of the plate may have a slight burr on the edge (due to machining) which prohibits smooth removal and storage of the switch box.

The rough edge can cause enough resistance (friction) to result in attendants prying or forcing the switch box improperly out of the clip bracket. **Failure to position the back plate as described may result in switch box storage clip breakage.**

⚠CAUTION

Position smooth-edged surface of switch box holder back plate out. Failure to do so may result in switch box storage clip breakage.

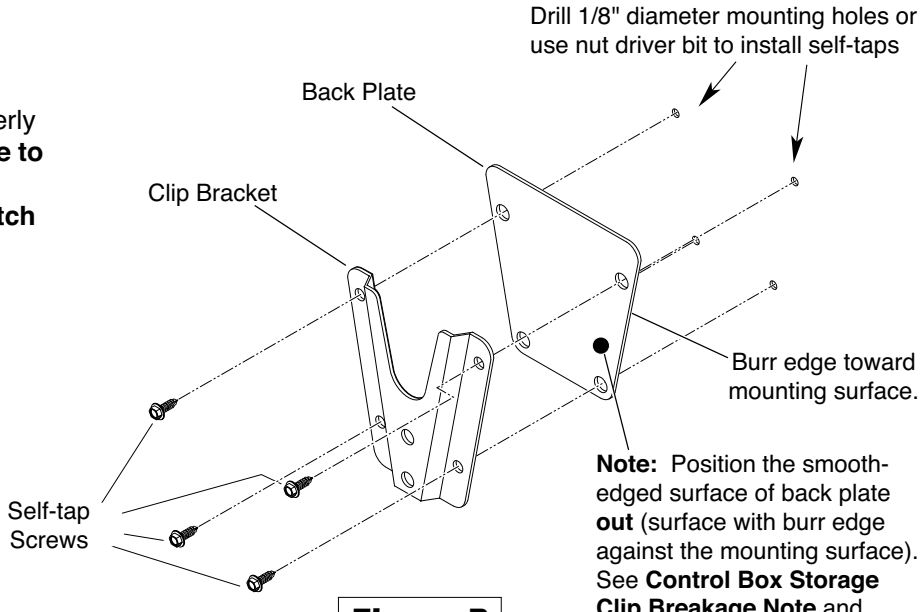

Drill 1/8" diameter mounting holes or use nut driver bit to install self-taps
Back Plate
Clip Bracket
Burr edge toward mounting surface.
Self-tap Screws

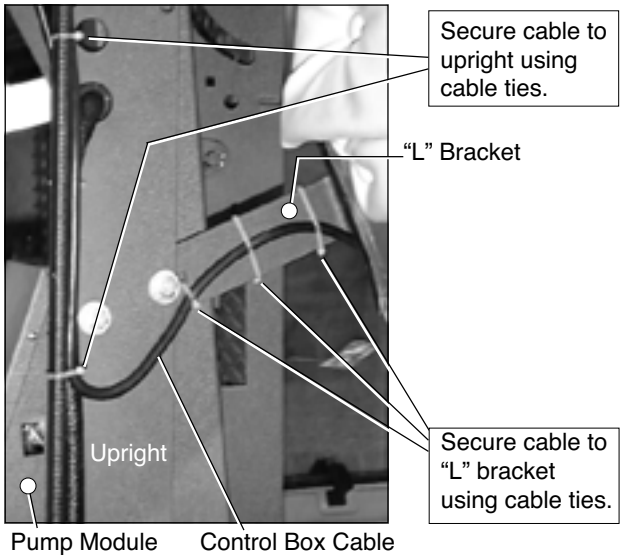
Figure P

Note: Position the smooth-edged surface of back plate **out** (surface with burr edge against the mounting surface). See **Control Box Storage Clip Breakage Note** and **Caution** at left!

Lift Installation Instructions

Harness Routing and Securement: Control box cable routing and securement varies according to the application. Route the control box cable out to the interior face of the door. There must be enough free (slack) cable to allow attendant usage. **Route and secure cable clear of potential door and lift damage!**

Door opens to "Rear" (pump side): Route the cable alongside the lift upright to the "L" mounting bracket location as shown in top photo. Provide adequate slack in the cable between the pump module and upright to allow the lift to fold in and out **without straining the cable**. A series of holes is provided in the lift upright which can be used to secure the cable to the upright using cable ties (see top photo).

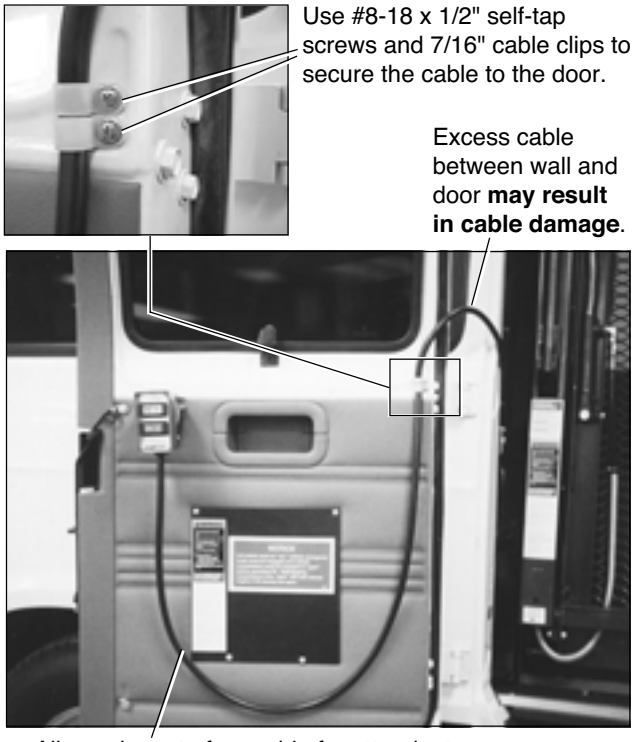


Route the cable alongside the "L" mounting bracket to the vehicle wall and secure the cable to the "L" bracket using cable ties as shown above. The cable **must be fastened securely to the "L" bracket, the vehicle wall and the door with just enough slack cable to allow the door to open**.

⚠CAUTION

Excess slack cable between vehicle wall and door may result in cable damage.

Excess slack cable between the wall and the door could allow the cable to be pinched in the door jamb when the door is closed. **Failure to follow this procedure may result in cable damage.** Use #8-18 x 1/2" self-tap screws and 7/16" cable clips to fasten the cable to the door as shown in middle photo.


Use #8-18 x 1/2" self-tap screws and 7/16" cable clips to secure the cable to the door.
Excess cable between wall and door **may result in cable damage**.
Allow adequate free cable for attendant usage.

Alternate Cable Routing: It may be necessary to route the cable downward from the "L" bracket position **before** routing it to the door. The cable may be routed alongside a modesty panel (if equipped) to the vehicle door. The cable may be routed to the floor, up the wall and then out to the door. Cable tie the harness to the upright and use #8-18 x 1/2" self-tap screws and 7/16" cable clips to secure the cable as needed. **Route and secure cable clear of potential door and lift damage!**

Door opens to "Front " (opposite pump side): Route the cable: **a.** up the "rear" upright; **b.** across the interior face of the lift header; **c.** down the "front" upright to the door; and **d.** mount to door as detailed at right.

Header Securement: Cable tie the cable to the uprights and utilize the three self-tap screws securing the lift header cover along with cable clips (supplied) to fasten the cable to the header.

⚠WARNING

Never install screws or fasteners (other than factory installed) into lift horseshoe. Failure to follow this rule may result in serious bodily injury and/or property damage.

6 Test Lift Operation

⚠WARNING

Meet all positioning and clearance specifications before drilling mounting holes and/or installing permanent securement hardware. Failure to do so may result in serious bodily injury and/or property damage.

⚠WARNING

Proceed with care. Lift securement is temporary at this time. Failure to do so may result in serious bodily injury and/or property damage.

⚠WARNING

Raise and fold the platform to stowed position before removing temporary securement (clamps) to shift lift position. Failure to do so may result in serious bodily injury and/or property damage.

With the lift **temporarily** secured and the power connected as previously outlined, open the door(s) **fully**, stand clear and press the orange UNFOLD switch. Observe all points of the lift as it unfolds to be **certain** the lift **does not contact** the door opening. If any contact occurs, the lift **must be repositioned**.

Press the red DOWN switch to lower the platform. There must be a **minimum 1" clearance** between the slide tube assembly and the vehicle as the platform lowers. The lift **must be repositioned** if there is not a **minimum 1" clearance**.

Review the **Lift Positioning and Clearance Checklist**. **Be certain** the lift is properly positioned and clearance is adequate **before drilling mounting holes and bolting permanently**. Bolt the lift in position as detailed in Step 7 **if lift positioning is correct**.

Repositioning: Raise the platform fully and fold to the stowed position. **Read the precautions above before shifting lift position!** Loosen or remove temporary fasteners and **carefully** reposition the lift **if needed prior** to bolting permanently. Then bolt the lift in position as detailed in Step 7.

Positioning and Clearance Checklist

Vehicle Clearance:

☑ Cylinder channel **must** clear door opening as lift unfolds and folds (see point 1).

☐ Actuator **must** clear door opening as lift unfolds and folds (see point 2). See **Actuator Rotation** at right.

☐ "Front" horseshoe tube **must** clear door opening as lift unfolds and folds (see point 3).

☐ Platform (slide tubes) **must** clear vehicle by **minimum 1"**. See point 4.

Rear Door Installations: The vehicle rear bumper **may** obstruct the platform in **some** rear door installations. See **Rear Door Installations (Bumper Clearance)** on page 23 for available adjustments.

Actuator Rotation: The actuator motor can be rotated 90° to allow the lift to be positioned closer to the vehicle door in **some** applications. Doing so **may** provide vehicle bumper clearance in **some** applications. **Actuator "Quick-Rotation" Instructions** are provided on pages 32 and 33.

☐ There **must** be a **minimum 1/8"** clearance between the deployed bridge plate assembly and any obstruction on the vehicle floor. See point 5.

☐ Lift header **must** clear the vehicle roof in both the folded and the unfolded positions. See point 6.

☐ Lift **must** clear door-mounted control box when door is closed (see Figure O on page 18).

Positioning and Clearance Checklist (continued)

Upright Alignment:

❑ **"Side" to "Side" Alignment:** As viewed from outside the vehicle, the lift uprights should be perpendicular (90°) to the vehicle floor (point 7), and **must be** parallel (aligned) with the sides of the door jamb (see points 8 and 9).

❑ **"Inboard" to "Outboard" Alignment:** Uprights **must** be aligned (parallel) to each other (point 10) and should be perpendicular (90°) to the vehicle floor (point 11). Dimension 12 **must** equal Dimension 13 **if** the vehicle wall is vertical from floor to "L" bracket position.

❑ **Platform Side Plate and Whale Clearance:**

There **must** be an equal amount of clearance between the platform side plates and the whales on **both** sides of the platform when the platform is in the fully-unfolded position. Details and photos are provided on page 22 (see points 16 and 17).

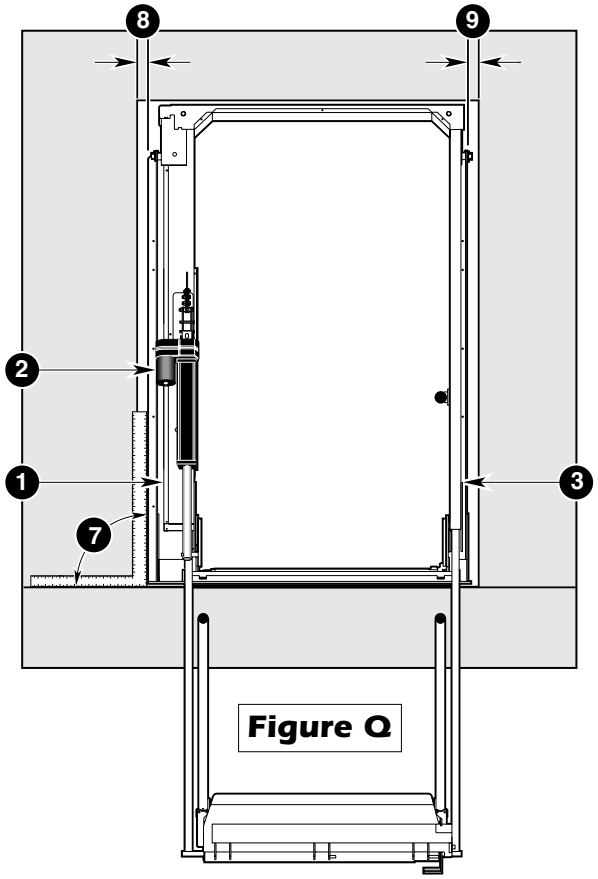


Figure Q

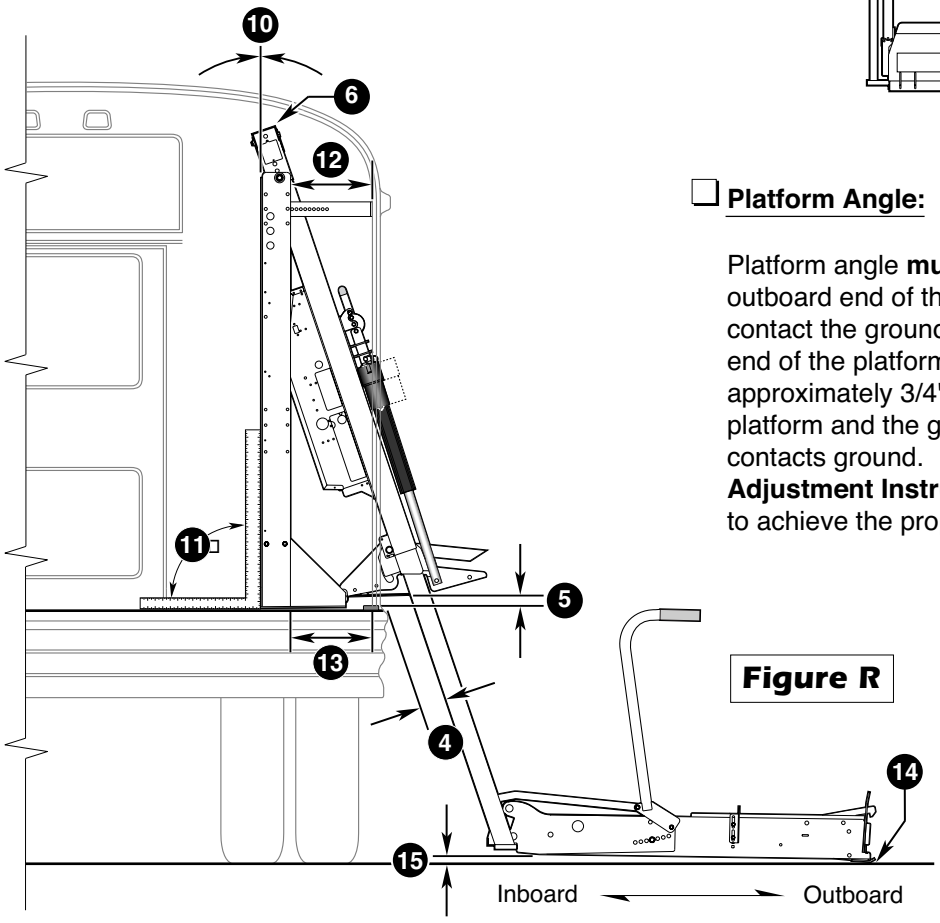


Figure R

❑ **Platform Angle:**

Platform angle **must** be properly adjusted. The outboard end of the platform (point 14) **must** contact the ground first when lowered. Inboard end of the platform (point 15) should have approximately 3/4" to 1" clearance between the platform and the ground when the outboard end contacts ground. Follow the **Platform Angle Adjustment Instructions** on pages 30 and 31 to achieve the proper platform angle.

6 **Test Lift Operation** (continued)

Positioning and Clearance Checklist (continued)

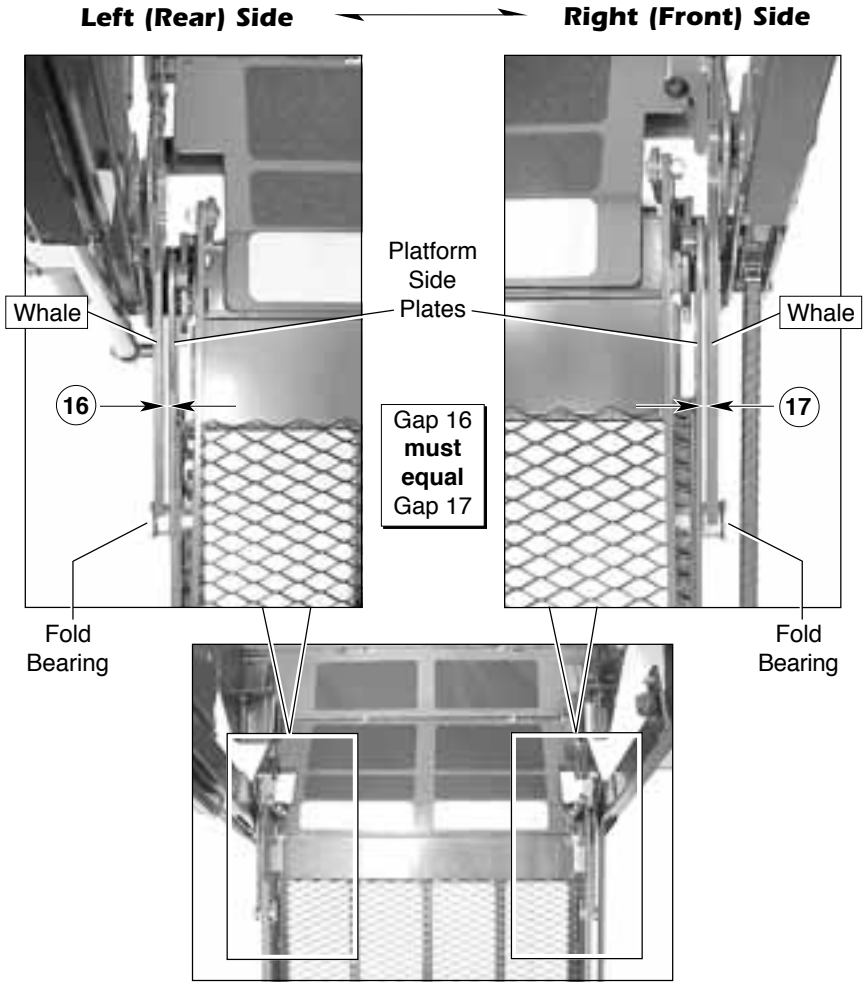
☐ **Platform Side Plate and Whale Clearance:**

When the platform is in the fully-unfolded position, there **must be** an **equal** amount of **clearance** between the platform side plates and the whales on **both side**s of the platform (see points 16 and 17). Failure to provide this clearance can result in "metal-to-metal" contact of and damage to lift components when the platform raises and lowers.

"Inboard" to "Outboard" upright alignment regulates the clearance at these points. See Figure E on page 12 and point 10 in Figure R (page 21). Shift the uprights as needed to achieve **equal clearance**. Move the top of the upright inboard on the side of lift that has the narrow gap (less clearance).

For Example: If the clearance at point 16 is less than point 17, move the top of the "rear" upright inboard. Doing so increases the clearance at point 16 and reduces clearance at point 17.

Shift the position of the top of the upright until equal clearance is achieved. A series of mounting holes are provided in both the lift uprights and the "L" brackets (see Figure T on page 24). Reposition the upright mounting bolts to other mounting holes to achieve equal clearances.



Overall Top View

⚠WARNING

Top lift mounting brackets must be bolted directly to lift uprights and vehicle wall. Do not use spacers. Using spacers may result in serious bodily injury and/or property damage.

Read warning at left! Top lift mounting brackets must be bolted directly to lift uprights and vehicle wall. Secure the upright. **Do not use spacers!**

Note: It may be necessary to drill alternate mounting holes in the mounting brackets and/or the lift uprights.

6 **Test Lift Operation** (continued)

Rear Door Installations (Bumper Clearance):

The vehicle rear bumper **may** obstruct the platform in **some** rear door installations. The Antidrift Wedges and the Quiet-Ride Bumper can be adjusted to decrease the overall lift depth. Decreasing the lift depth will allow the unit to be positioned closer to the door opening. Positioning the lift closer to the door opening increases platform "kick-out" which may result in adequate vehicle bumper clearance in **some** applications. Adjustment details are outlined below. **Note:** See **Actuator Rotation** also.

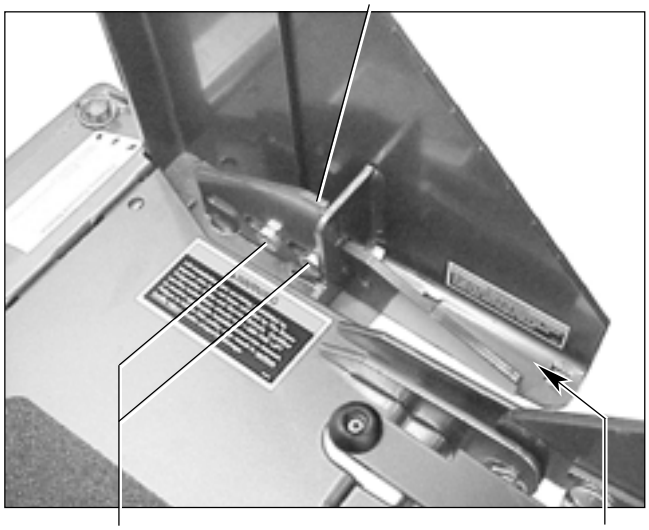
Antidrift Wedges: The antidrift wedges have a series of mounting holes and the corresponding base plate vertical mounting brackets have oval mounting slots provided for "in-out" adjustment. With the lift platform in the stowed position, examine the relationship between the platform and the wedges. Mark the position of the wedges.

Unfold the lift for easier access to the wedge mounting hardware. The "front" side antidrift wedge is secured with two 3/8"-16 x 3/4" hex bolts and two 3/8" hex lock nuts. The "rear" side wedge is secured with two 3/8"-16 x 3/4" carriage bolts and two 3/8" hex lock nuts. Loosen the wedge mounting hardware and reposition the wedges **inboard** as needed. **Note:** It **may** be necessary to remove the wedge mounting bolts and move them to a different pair of mounting holes to provide adequate relief. **Tighten all** mounting hardware **securely**.

Quiet-Ride Bumper: The Quiet-Ride bumper is positioned on the "front" horseshoe tube. The Quiet-Ride bumper is mounted on an adjustable bracket. Loosen the 3/8"-16 x 3/4" carriage bolt securing the bumper bracket and reposition the bumper **inboard** as needed. **Tighten all** mounting hardware **securely**.

Vehicle Rear Bumper Modification / Replacement Kits

Note: Bumper modification and/or bumper replacement kits are available to accommodate **some** installations **if needed**. Kit numbers are provided on page 7.


Antidrift Wedge ("front" side shown)
Two 3/8"-16 x 3/4" Hex Mounting Bolts (Carriage Bolts used on "Rear" Wedge)
Reposition wedges **inboard** as needed.

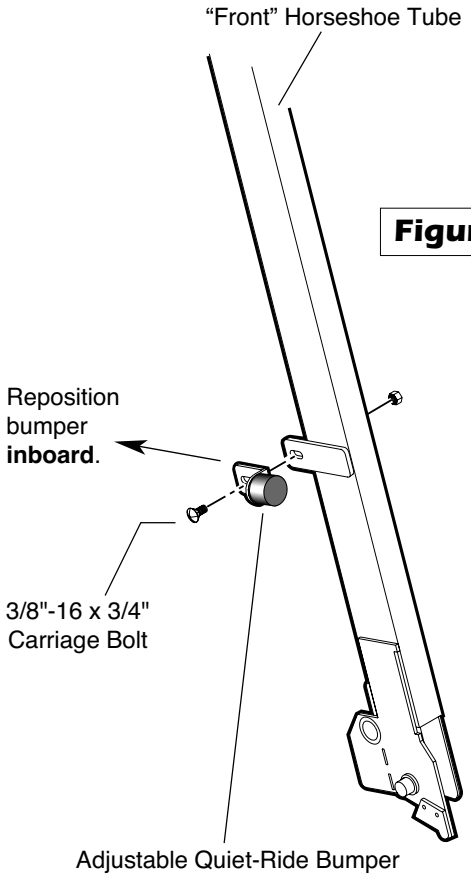


Figure S

7 Permanent Lift Securement

Complete Steps 1-6 **before drilling mounting holes and bolting permanently. Review all precautions posted on page 20 before shifting lift position!**

7 A. Top Mounting Brackets:

Position the brackets as shown here and on page 9. **Note:** It may be necessary to drill alternate mounting holes in the "L" brackets or the lift uprights if the brackets are angled or otherwise modified. Mark the "L" mounting brackets flush with the inside edge of the lift uprights. **Carefully** remove the "L" brackets (**one at a time**) and cut them off at the marks. File or grind sharp edges.

Note: Top lift mounting brackets must be bolted directly to lift uprights and vehicle wall. Secure the upright. **Do not use spacers! Read warning on page 22!**

Upright Securement: Reposition the brackets and attach them to the uprights. Two 3/8"-16 x 1" bolts (item 5), two 3/8"-16 lock washers (item 12), and two 3/8" nuts (item 15) **must be used per bracket**. **Tighten securely**.

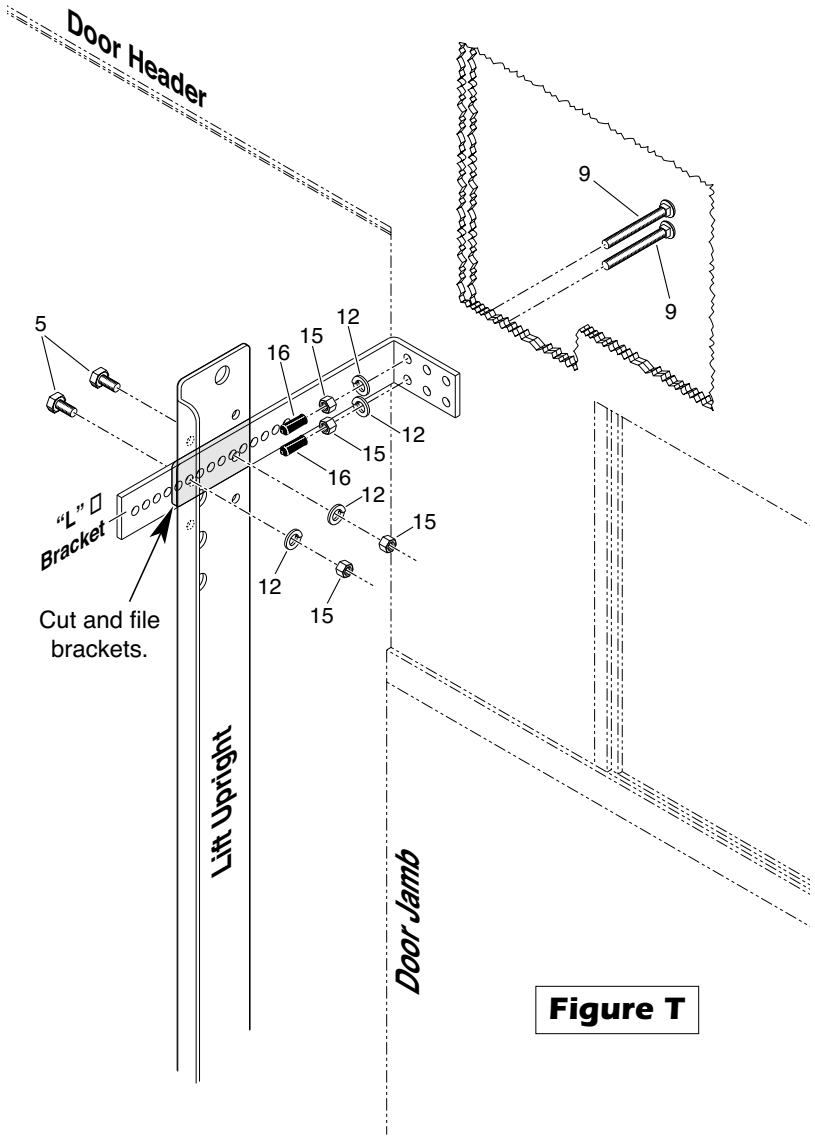


Figure T

⚠WARNING

Check for obstructions such as gas lines, wires, exhaust, etc. before drilling or cutting. Failure to do so may result in serious bodily injury and/or property damage.

Wall Securement:
Attach the "L" brackets to the vehicle wall by bolting through the wall or door jamb flange. Drill 3/8" diameter holes in alignment with the holes provided in the brackets.

From **outside the vehicle**, insert a 3/8"-16 x 3-1/2" carriage bolt (item 9) through the wall and the bracket in **each** of the holes. Secure **each** bolt with one 3/8"-16 lock washer (item12) and one 3/8" nut (item 15). See Figure A on page 9 also. **Tighten securely**. Place the vinyl caps (item 16) onto the carriage bolts.

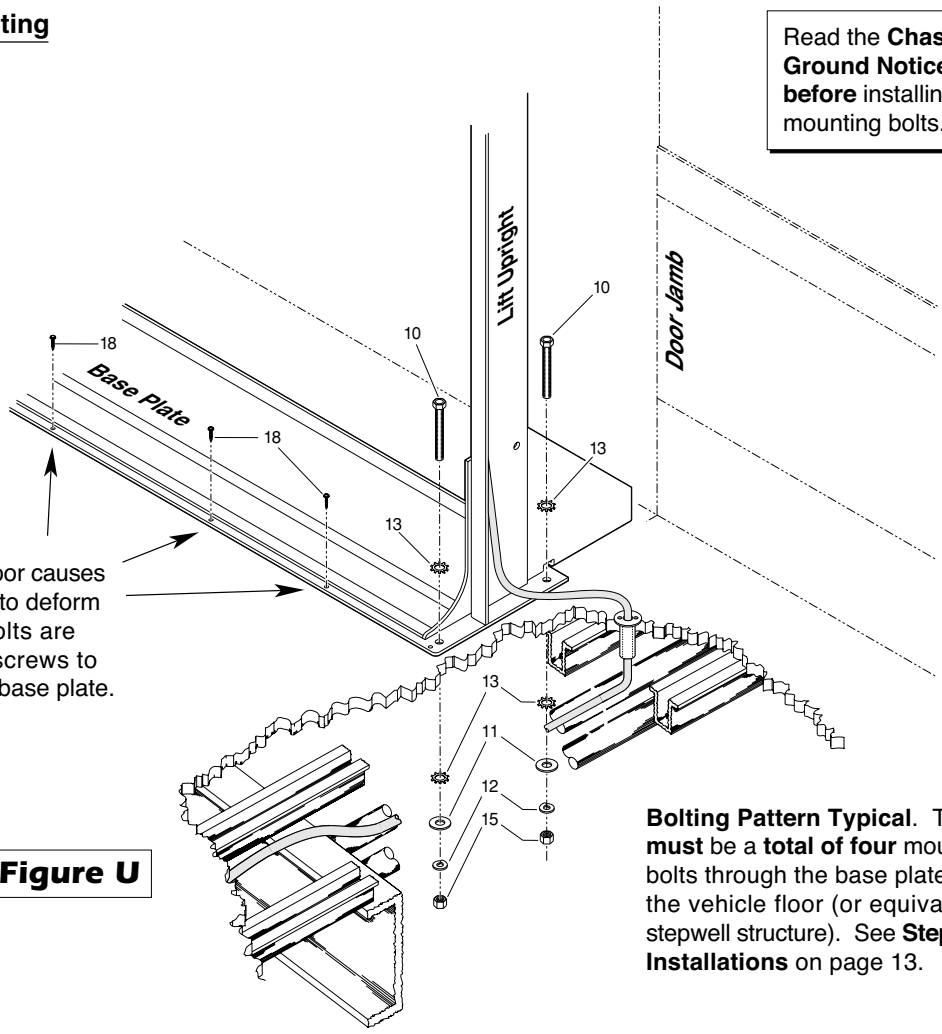
Caution: Overtightening these bolts may collapse the vehicle wall.

Two 3/8"-16 x 3-1/2" carriage bolts, two 3/8"-16 lock washers, and two 3/8" nuts **must be used to secure each "L" bracket through the vehicle wall**.

7 B. Base Plate Mounting

Four 3/8"-16 x 2-1/2" full thread hex bolts, eight star washers, four 3/8" flat washers, four 3/8" lock washers and four 3/8" hex nuts **must secure the base plate through the vehicle floor**.

Read the **Chassis Ground Notice before** installing mounting bolts.



Note: If a weak vehicle floor causes the center of base plate to deform (warp upward) as the bolts are tightened, use self-tap screws to secure the middle of the base plate.

Figure U

Bolting Pattern Typical. There **must** be a **total of four** mounting bolts through the base plate and the vehicle floor (or equivalent stepwell structure). See **Stepwell Installations** on page 13.

Chassis Ground Notice

Remove (grind, sand, etc.) powder coating (paint) from the area around one or more lift base plate mounting holes and remove any undercoating, dirt, rust, etc. from the underside of the vehicle floor metal surface equal in size to the mounting hardware in order to provide **optimum ground** to the electrical system. Apply a protective coating of grease to the mounting hole(s) and underside of the vehicle where bare metal is exposed to prevent corrosion. **Failure to do so will void warranty of certain electrical components**.

Check under the vehicle for possible obstructions (framing members, heat shields, exhaust, fuel lines, wires, etc.). **Carefully** drill four 3/8" diameter holes through the vehicle floor in alignment with four **optimum** lift base plate mounting holes

⚠WARNING

Check for obstructions such as gas lines, wires, exhaust, etc. before drilling or cutting. Failure to do so may result in serious bodily injury and/or property damage.

(**one inboard and one outboard at each end**). **Do not use the two outboard gusset mounting holes!** See Figure V on page 26.

Note: It **may** be necessary to drill alternate mounting holes to clear obstructions. Alternate (longer) 3/8" diameter bolts (grade 5) **must** be used to penetrate any vehicle floor framing members aligned with mounting holes.

Read **Chassis Ground Notice before** installing mounting bolts. In an effort to provide maximum ground to the lift system, eight 3/8" external tooth star washers are being supplied with each lift. (continued)

7 Permanent Lift Securement (continued)

Place one 3/8" external tooth star washer (item 13) onto each of the four 3/8"-16 x 2-1/2" full thread bolts (item 10) and insert bolts into the four holes as shown in Figure U on page 25.

Secure **each** of the four bolts below the vehicle floor by placing one 3/8" star washer (item 13), one 3/8" flat washer (item 11), one 3/8" lock washer (item 12) and one 3/8" nut (item 15) onto **each** bolt. **Tighten securely**. See Figure U.

There **must** be a total of four 3/8"-16 x 2-1/2" full thread bolts (or longer grade 5 bolts) securing the base plate **through the vehicle floor**.

Note: If a weak vehicle floor causes the center of base plate to deform (warp upward) as the bolts are tightened, use self-tap screws to secure the middle of the base plate as shown in Figure U.

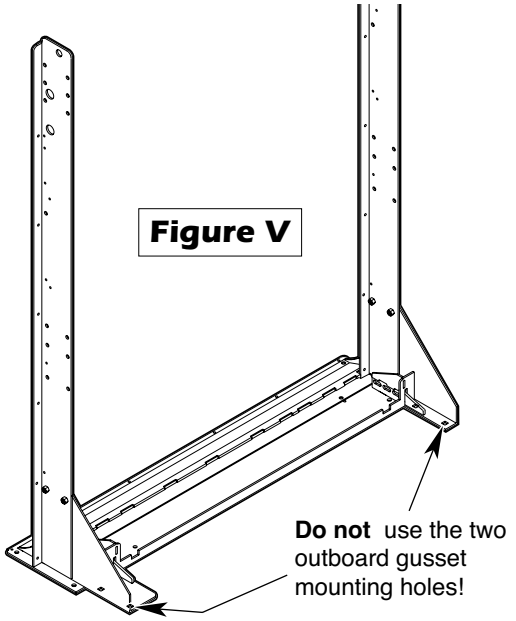


Figure V

8 Decal Application

Apply the applicable Warnings and Lift Operating Instructions decal and ADA (Standees/ Interlock) Instructions decal #19342 (L211 Series lift models **only**) to the lift door in a highly visible location near the control box as shown. Two Courtesy Requested decals are supplied to be posted on the vehicle as desired.

L211 Series Lifts only:
ADA (Standees/Interlock) Instructions Decal 19342

Warnings and Lift Operating Instructions Decal
Series **05:** 25857
Series **06:** 25858

⚠WARNING

Replace missing, worn or illegible decals. Failure to do so may result in serious bodily injury and/or property damage.

9 Owner's Manual

Be certain the lift owner's (operator's) manual is in the lift-mounted manual storage pouch upon delivery of the lift.

⚠WARNING

The lift operator's manual must be stored in the lift-mounted manual storage pouch at all times. Failure to follow this rule may result in serious bodily injury and/or property damage.

Lift Installation Checklist

A generic Lift Installation Checklist is provided as a final installation checklist to be given to your customer. The Lift Installation Checklist is the last page in this manual. Complete, remove (tear out) and forward the Installation Checklist (or a copy) to your customer to confirm that this lift has been properly installed.

Quiet-Ride Adjustment Instructions

A variety of adjustments are available to eliminate or reduce potential lift rattles which might occur during vehicle movement. Some features are incorporated in the L200 exclusively for this purpose (with adjustments available). Other possible adjustments are available as outlined in this section. **Note:** Check the platform angle as detailed on pages 30 and 31 **before** making Quiet-Ride adjustments.

If lift rattle(s) occur, review the chart below for possible source(s) and remedies. Further details are provided for particular adjustments.

Possible Rattle Source	Possible Solution
1. Lift Upright Alignment	Visually align (parallel) Uprights
2. Antidrift Wedges	Adjust Antidrift Wedges
3. Striker Back/Striker Flap	a. Adjust Striker Back Tab b. Apply Cap Tape
4. Quiet-Ride Bumper	Adjust Quiet-Ride bumper
5. Handrail Alignment	Align Handrails
6. Handrail Stop Brackets Alignment (Lateral)	Align Stop Brackets
7. Handrail Stop Brackets Height Adjustment	Adjust height of Stop Brackets
8. Roll Stop Latch	Install Rubber Bumper

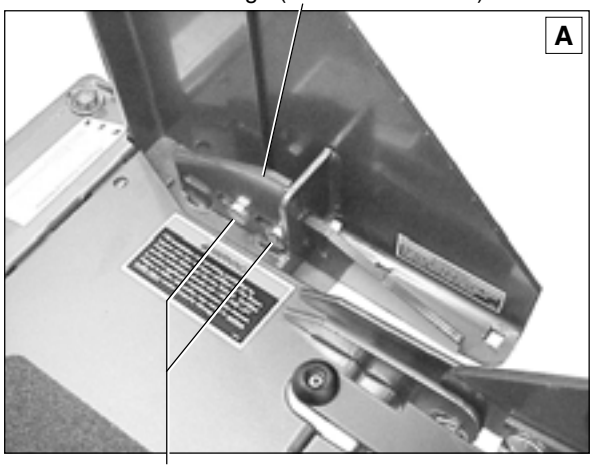
Details

1. Lift Upright Misalignment: Lift uprights **must** be parallel (visually aligned) during installation procedures. Visually align (parallel) uprights as outlined on pages 11 and 12. Failure to do so can result in "metal-to-metal" contact of lift components. See **Platform Side Plate and Whale Clearance** on page 22 also.

2. Antidrift Wedges: Repositioning the two antidrift wedges outboard can reduce "in-out" platform vibration and/or "up-down" vibration. The antidrift wedges have a series of mounting holes and the base plate vertical mounting brackets have oval mounting slots provided for "in-out" adjustment.

With the lift platform in the stowed position, examine the relationship between the platform and the

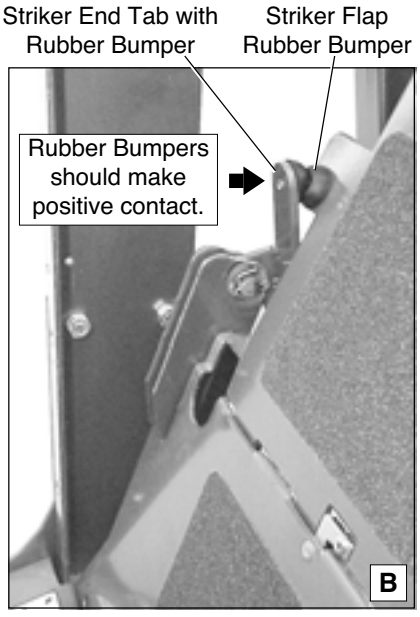
Antidrift Wedge ("front" side shown)



Two 3/8"-16 x 3/4" Hex Bolts
(Carriage Bolts used on "Rear" Wedge)

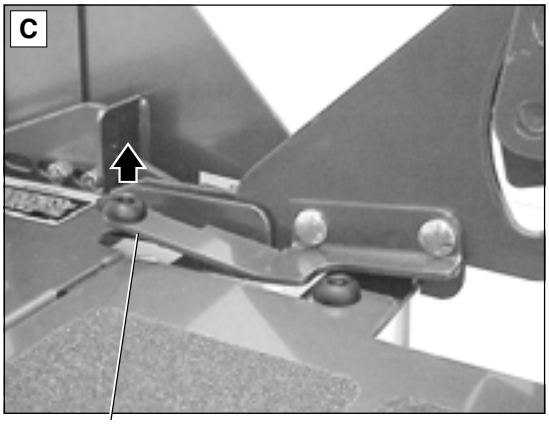
wedges. The lift horseshoe should **not pull outward with 130 pounds of force** applied to bottom of platform heel at end (90° to lift upright). If the platform can be moved in and out with 130 pounds of force or less, the wedges **must be repositioned**. Mark the position of the wedges. Unfold the lift for easier access to the wedge mounting hardware . See Photo A. Loosen wedge mounting hardware. Reposition wedges as needed (see Photo A), and **tighten** mounting hardware **securely**. **Note:** Rear door installations **may** require the wedges to be loosened. See **Rear Door Installations (Bumper Clearance)** on page 23 for details.

3. Striker Back/Bridge Plate Flap: With the lift platform in the stowed position, examine the looseness (play) of the striker back and the bridge plate flap. The bridge plate flap and right side striker end have rubber bumpers mounted on tabs which can be adjusted to reduce play between the two plates. With the lift platform in the stowed position, view the relationship between the rubber bumpers (see Photo B).



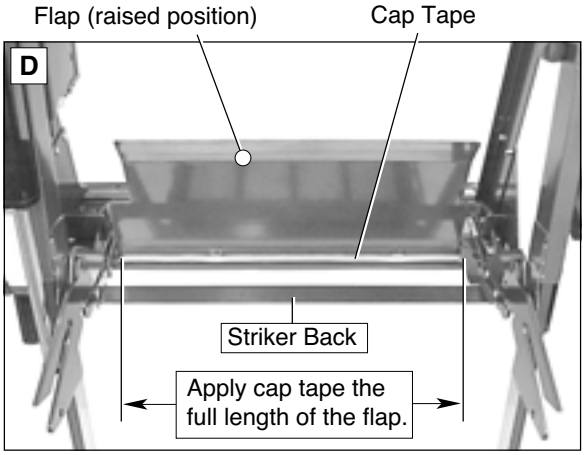
Quiet-Ride Adjustment Instructions

Unfold the lift and use a wrench to bend up the tab (with bumper) mounted on the left side striker end (see Photo C). Bending this tab will result in the two bumpers contacting each other and tightening the bridge plate assembly. Adjust the striker end tab to hold the flap securely.



Bend striker end tab up.

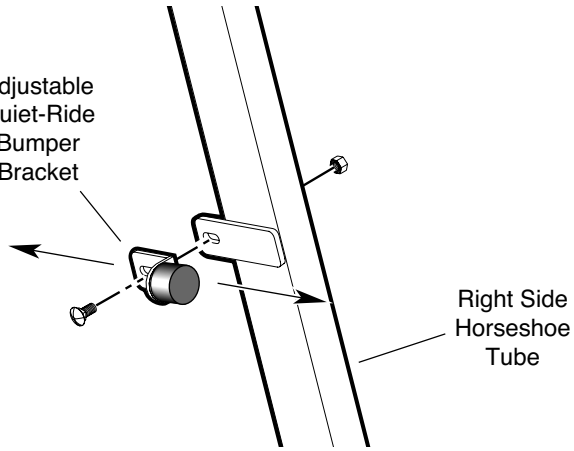
Vibration can also occur directly between the striker back and the bridge plate flap. Adhesive-backed foam rubber cap tape can be applied to the outboard horizontal edge (offset flange) of the striker back where the flap rests to further reduce the play between the two plates. Apply cap tape the full length of the flap (see Photo D and Note below). Cap tape is available from the Braun Corporation under part number 12461R030.



Tape Application Note: Clean powder-coated surfaces with isopropyl alcohol before application. Use a clean cloth or paper towels. **Do not** use oily shop rags. Wipe the surface free of residue with dry (clean) portion of cleaning cloth.

4. Quiet-Ride Bumper: The Quiet-Ride bumper is mounted on the right side horseshoe tube to reduce "in-out" platform vibration. Grip the top of the platform and move the platform in and out. The platform pick-up bearing should **not** rock jaws of whale. If rocking occurs, reposition the Quiet-Ride bumper **outward** as outlined below.

The Quiet-Ride bumper is mounted on an adjustable bracket which can be shifted to reposition the bumper further outboard resulting in a tighter fit (positive contact) between the bumper and the platform. Loosen the 3/8"-16 x 3/4" carriage bolt securing the bumper bracket and reposition as needed.



5. Handrail Alignment: There should be a **minimum 3/4" clearance** between the handrails and horseshoe (horseshoe tube on right and cylinder channel on left). Modify (bend) handrails as needed to achieve clearance.

Quiet-Ride Adjustment Instructions

Adjustable Handrail Stop Brackets: Lifts equipped with cane handrails are equipped with adjustable handrail stop brackets. The handrails seat in the stop brackets when the lift is in the stowed position.

6. Handrail Stop Brackets Alignment (Lateral): After handrails are aligned, adjust the stop brackets such that the radius of bracket aligns with radius of handrail. Use a wooden or rubber mallet to achieve bracket and platform side plate movement (inboard to outboard). The inside (platform side) vertical edge of the brackets should be flush with the inside edge of handrails (as viewed from inside of vehicle). See Photo F.

7. Handrail Stop Brackets Height Adjustment: With the lift platform in the stowed position, examine the relationship between the handrails and the stop brackets (see Photo F). If the handrails are not seating tight against the stops, the stops should be repositioned. **Note:** Check the platform angle as detailed on pages 30 and 31 **before** making handrail stop height adjustments.

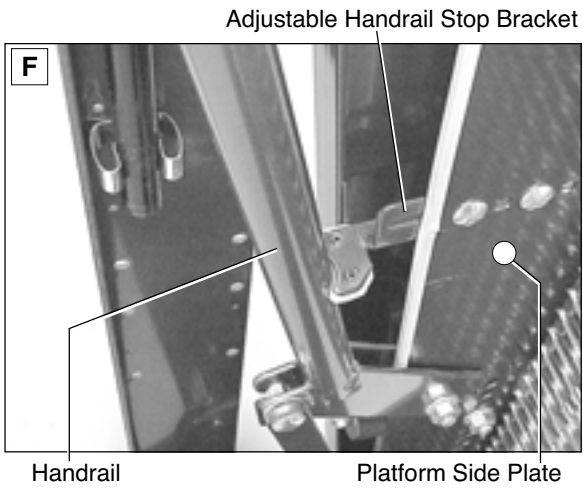
Height Adjustment Procedure:

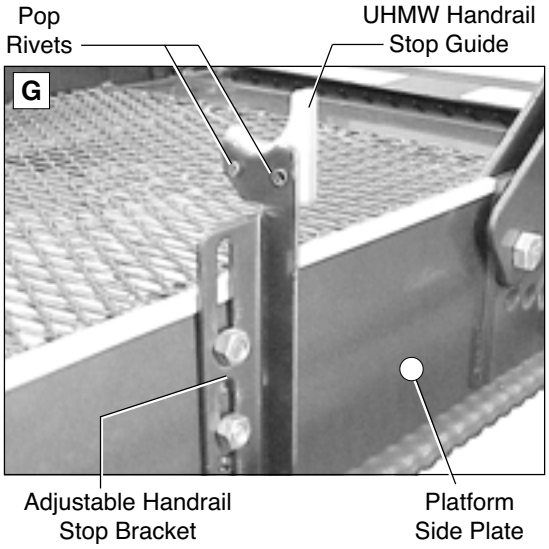
a. Loosen bracket mounting hardware.

b. Fold platform fully. Position brackets against handrails so that handrails are seated tightly in guides (no gap). Mark location of brackets.

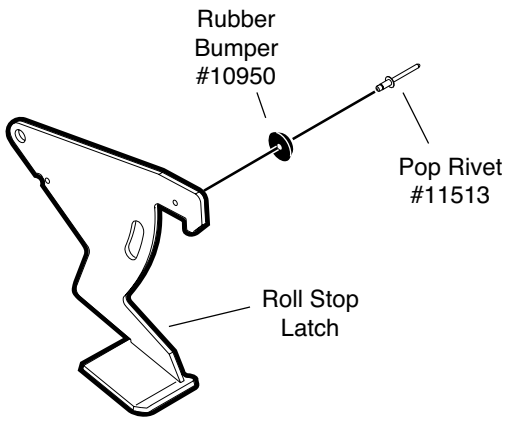
c. Unfold platform and raise brackets 3/16". **Tighten** bracket mounting hardware **securely**. Fold platform and check tightness. **Note:** The adjustable stops should be positioned such that the handrails seat tight in the brackets - but **do not overtighten**. Handrail damage could occur if overtightened.

UHMW Handrail Stop Guides: UHMW handrail stop guides are mounted to the adjustable handrail stop brackets to further reduce potential handrail rattle. See Photo G. Replace if missing (part number 19451).





8. Roll Stop Latch: Vibration can occur between the roll stop and the roll stop latch. This vibration is eliminated with the rubber bumper mounted on the outboard face of the latch (factory equipped). The rubber bumper is positioned such that the edge of the bumper extends slightly below the latch in alignment with the roll stop. The bumper prevents direct metal-to-metal contact between the latch and roll stop. Refer to the part numbers at the right for replacements. **Do not** position the bumper such that it prevents positive latching!



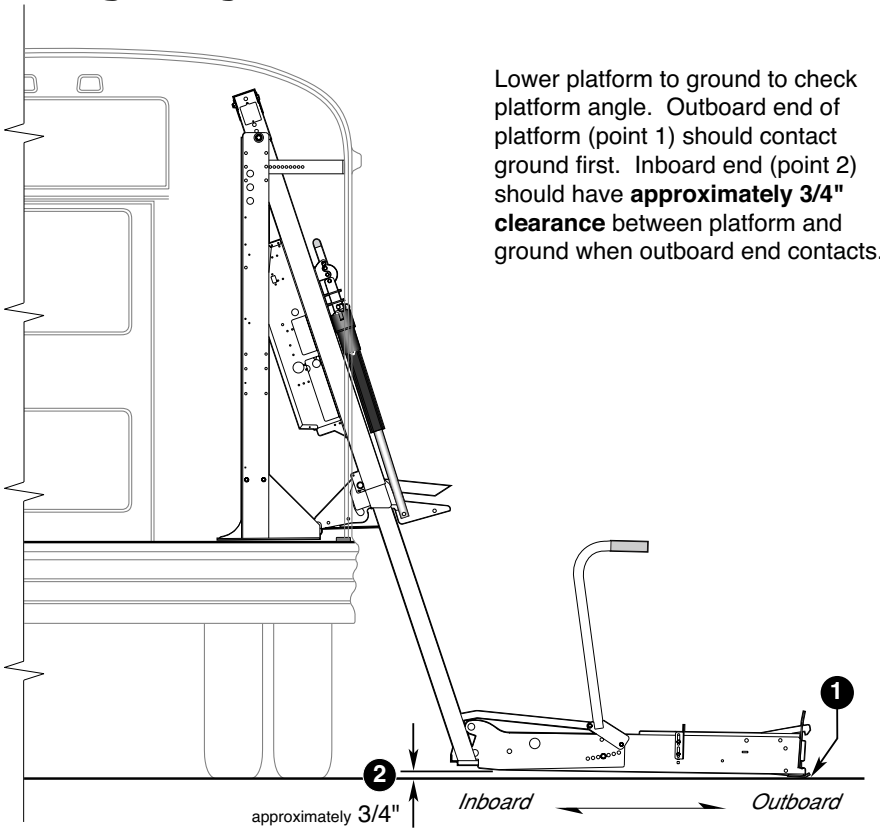
Platform Angle Adjustment Instructions

⚠WARNING

Whenever adjusting platform angle or retrofitting a platform:

- **Platform must be fully lowered prior to loosening or removing flanged lock nuts**
- **Flanged lock nuts must be discarded if loosened or removed**
- **Discarded lock nuts must be replaced with nuts provided in lift installation package.**

Failure to do so may result in serious bodily injury and/or property damage.



Lower platform to ground to check platform angle. Outboard end of platform (point 1) should contact ground first. Inboard end (point 2) should have **approximately 3/4" clearance** between platform and ground when outboard end contacts.

1. Lower the platform to the ground to check the platform angle. **Stop** when the outboard end of the platform contacts the ground. The outboard end of the platform (point 1) should contact the ground first. The inboard end (point 2) should have **approximately 3/4" clearance** between the platform and the ground when the outboard end contacts.

Angle Adjustment: Move the two side plate mounting bolts (item 6) inboard to lower outboard end of platform. Move mounting bolts outboard to raise outboard end of platform. Each adjustment hole will raise or lower the outboard end of the platform **1/2" per hole**. Measure to determine the necessary adjustment.

Lower platform fully before beginning platform angle or retrofit adjustment procedures!

2. Temporarily remove the two adjustable handrail stops (item 1) until the platform angle has been adjusted (if equipped). Each handrail stop is secured with two 5/16"-18 x 1/2" carriage bolts (item 2) and two 5/16-18 hex lock nuts (item 3). Instructions are provided for reinstallation of the stop brackets.

Note: It may not be necessary to remove handrail stops, but the handrail stops **must be loosened and repositioned** as detailed in Step 8.

3. Carefully loosen the two 1/2"-13 flanged lock nuts (item 4) retaining the platform fold bearings (item 5). **Do not** remove or damage the bearings.

4. Loosen and remove the two 1/2"-13 flanged lock nuts (item 4) retaining the two 1/2"-13 x 1" hex bolts (item 6) that secure the platform side plates. **Discard** the nuts.

5. Insert both (2) platform mounting bolts (items 6) in the pre-determined holes (see Step 1). **Note:** Use the same holes on each side. **Note:** It may be necessary to pry the platform side plates within the mounting holes due to the snugness of the outboard handrail mounting bolts.

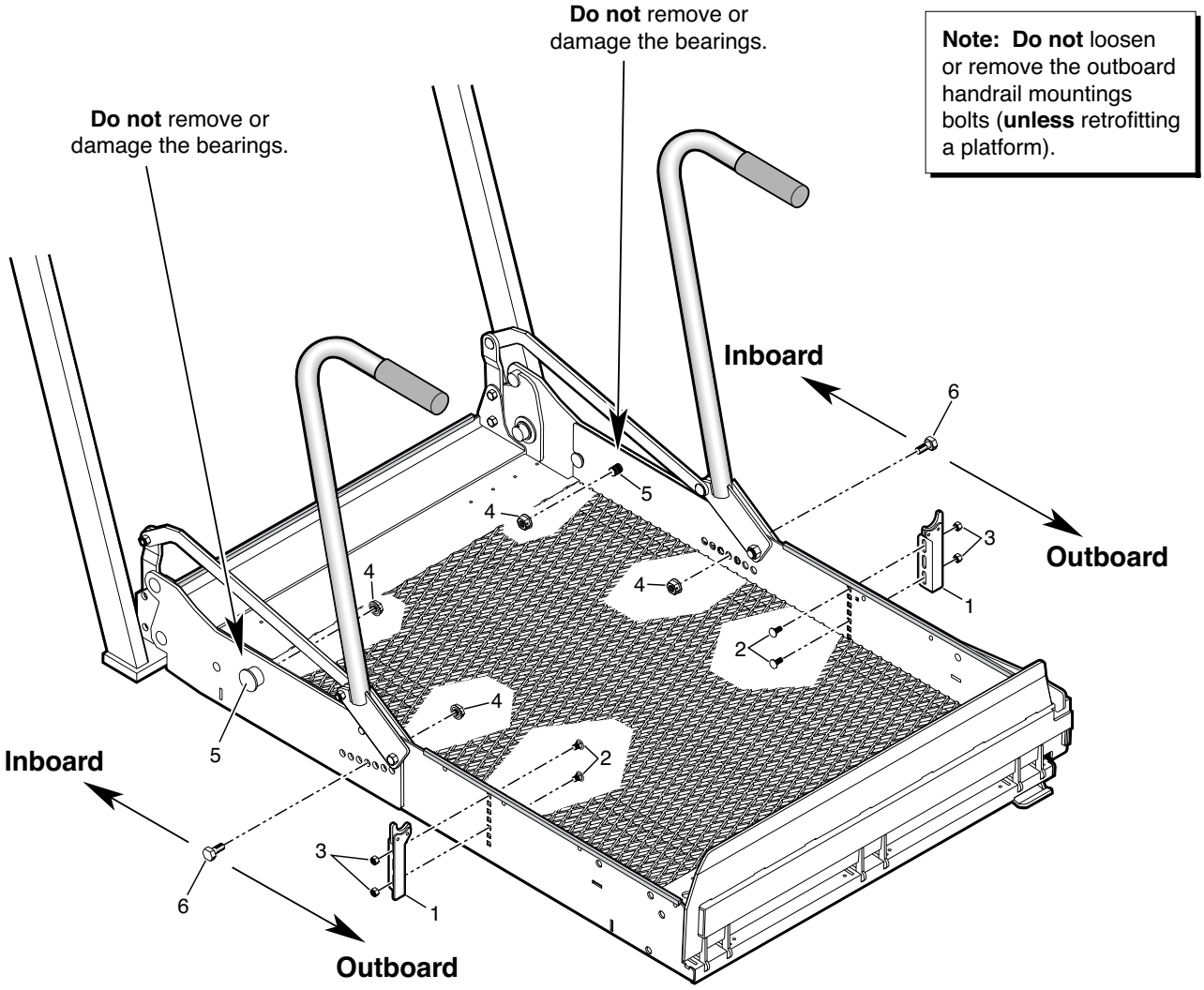
6. Four **new (replacement)** 1/2"-13 flanged lock nuts are provided in the Lift Installation Parts Package to replace the previously used nuts. Start one **new** 1/2"-13 flanged lock nut onto **both** 1/2"-13 x 1" hex mounting bolts (installed in Step 5). **Tighten securely**. **Do not overtighten** (strip nuts).

Platform Angle Adjustment Instructions

7. Remove and **discard** the two 1/2"-13 lock nuts (item 4) retaining the platform fold bearings (item 5). Start a **new** 1/2"-13 flanged lock nut onto **both** bearings and **tighten securely**. **Caution:** Take care not to damage the bearings.

8. Raise the lift platform and fold the platform to the stowed position. Reinstall the adjustable handrail stops (item 1), if previously removed. A series of six mounting holes is provided in the platform side plates and the stops have oval mounting slots provided to allow adjustment. Adjust (shift) the handrail stops inboard until **tight against the handrails**. The adjustable stops should be positioned such that the handrails seat tight in the brackets to prevent possible rattles - but **do not overtighten**.

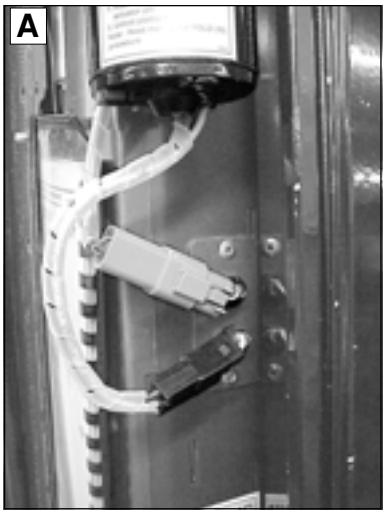
Mark the position of the stops. Unfold the platform and raise the stops 3/16" above the marks. **Tighten** the mounting hardware **securely**.



Platform Angle Adjustment: Move the two side plate mounting bolts (item 6) inboard to lower outboard end of platform. Move mounting bolts outboard to raise outboard end of platform. Each adjustment hole raises or lowers the outboard end of platform **1/2"**.

Handrail Stops (if equipped): Temporarily remove the handrail stops (item 1) if equipped. Adjust platform angle. Reinstall handrail stops as detailed in Step 8.

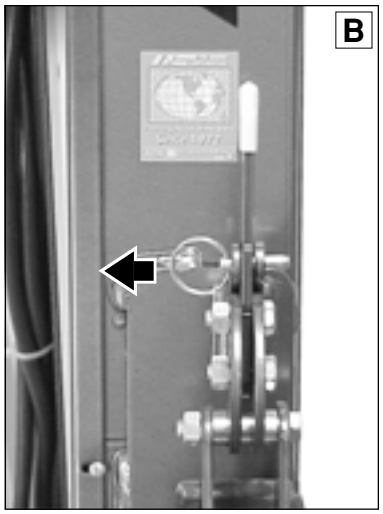
Actuator "Quick-Rotation" Instructions



Note: Disconnect actuator wiring harness **before** attempting actuator rotation procedures.

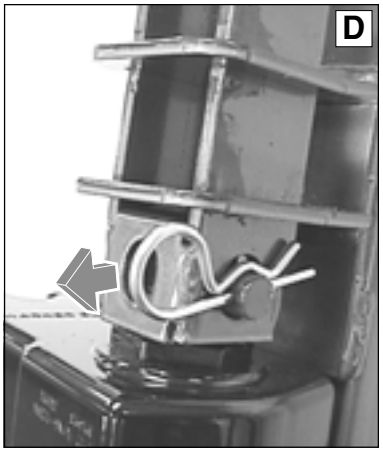
1. **Carefully** disconnect actuator wiring harness black connectors. Lift locking tab and disconnect sockets. See Photo A.

2. Pull to remove detent pin from release handle. See Photo B.

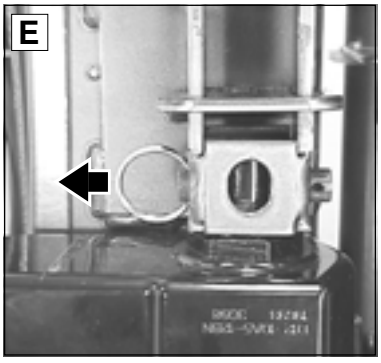


3. Pull handle down. See Photo C.

4. Pull to remove hairpin cotter from actuator quick-release pin. See Photo D.

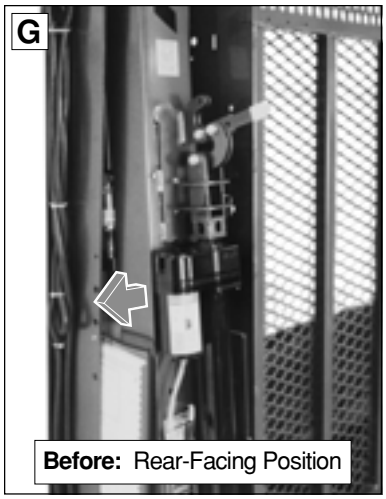


5. **Note:** L200UARS Series lift platforms are heavy. It is recommended to have an assistant aid in performing Steps 5 and 6 of this procedure. The lift platform **can potentially free-fall** when the actuator quick-release pin is removed (if the platform is not manually supported). Have an assistant **support the platform** before pulling the actuator quick-release pin (Step 5), and while rotating the actuator (Step 6).

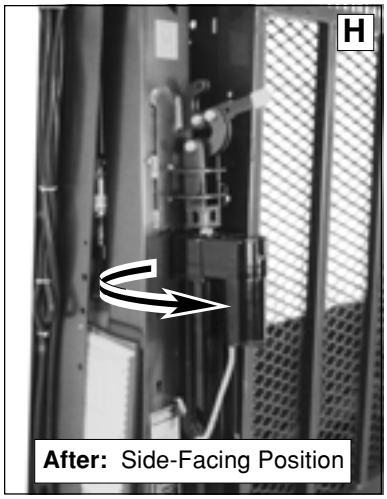


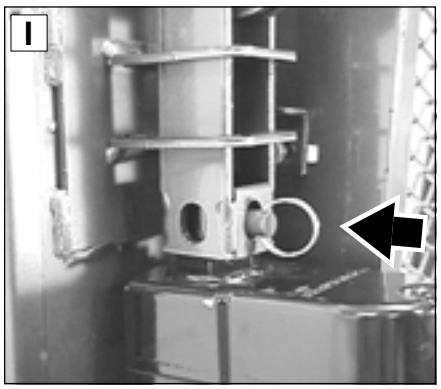
Have an assistant support the platform and pull to remove actuator quick-release pin. See Photos E and F.

Actuator "Quick-Rotation" Instructions



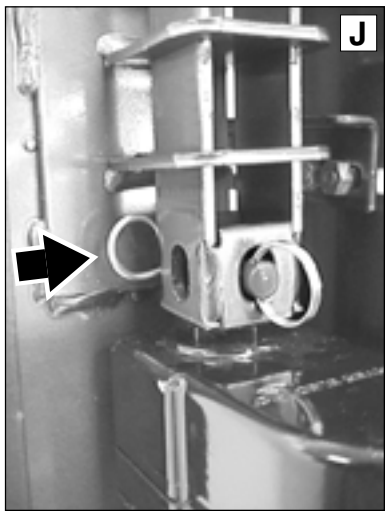
6. Have an assistant support the platform and rotate actuator 90° (**before** - Photo G and **after** - Photo H).





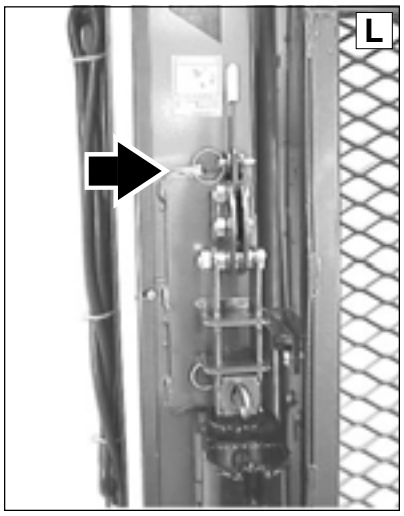
7. Insert actuator quick-release pin (90° from original orientation). See Photo I.

8. Insert hairpin cotter in actuator quick-release pin. See Photo J.

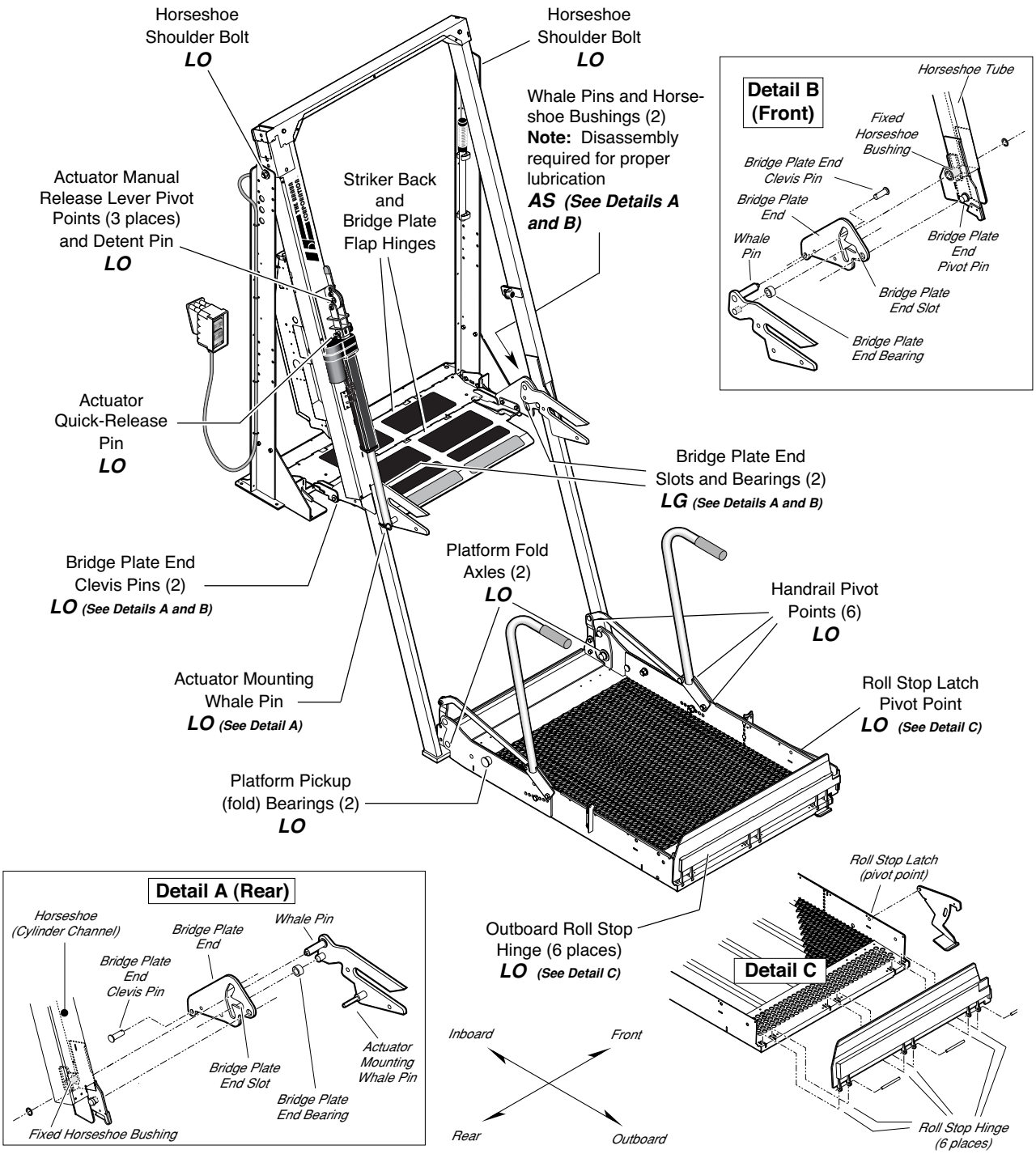


9. Raise handle fully. See Photo K.

10. Insert dentent pin fully in release handle. See Photo L.



Lubrication Diagram and Chart


Horseshoe Shoulder Bolt LO
Horseshoe Shoulder Bolt LO
Whale Pins and Horseshoe Bushings (2) Note: Disassembly required for proper lubrication AS (See Details A and B)
Actuator Manual Release Lever Pivot Points (3 places) and Detent Pin LO
Striker Back and Bridge Plate Flap Hinges
Actuator Quick-Release Pin LO
Bridge Plate End Slots and Bearings (2) LG (See Details A and B)
Bridge Plate End Clevis Pins (2) LO (See Details A and B)
Platform Fold Axles (2) LO
Handrail Pivot Points (6) LO
Actuator Mounting Whale Pin LO (See Detail A)
Roll Stop Latch Pivot Point LO (See Detail C)
Platform Pickup (fold) Bearings (2) LO
Outboard Roll Stop Hinge (6 places) LO (See Detail C)
Detail B (Front)
Horseshoe Tube
Fixed Horseshoe Bushing
Bridge Plate End Clevis Pin
Bridge Plate End
Whale Pin
Bridge Plate End Pivot Pin
Bridge Plate End Slot
Bridge Plate End Bearing
Detail A (Rear)
Horseshoe (Cylinder Channel)
Bridge Plate End
Whale Pin
Bridge Plate End Clevis Pin
Actuator Mounting Whale Pin
Bridge Plate End Slot
Bridge Plate End Bearing
Fixed Horseshoe Bushing
Detail C
Roll Stop Latch (pivot point)
Roll Stop Hinge (6 places)
Inboard
Front
Rear
Outboard

See Maintenance and Lubrication Schedule for recommended applications per number of cycles or elapsed time.

Lubricant	Type	Specified (recommended) Lubricant	Available Amount	Braun Part No.
LO - Light Oil	Light Penetrating Oil (30 weight or equivalent)	LPS2, General Purpose Penetrating Oil	11 oz. Aerosol Can	15807
AS - Anti-Seize	Anti-Seize style lube (freeze-gall preventive)	Anti-Seize, SS-30 (Jet Lube)	1/2 lb. Brush Top Can	15804
LG - Light Grease	Light Grease (Multipurpose)	Lubriplate	14 oz. Can	15805

Maintenance and Lubrication Schedule

The maintenance and lubrication procedures specified in this schedule **must** be performed by a Braun authorized service representative at the scheduled intervals according to the number of cycles or elapsed time, whichever comes first.

Discontinue lift use immediately if maintenance and lubrication procedures are not properly performed, or if there is any sign of damage or improper operation. Contact your sales representative or call The Braun Corporation at 1-800-THE LIFT. One of our national service representatives will direct you to an authorized service technician who will inspect your lift.

Lubrication: Proper lubrication is necessary to ensure safe, trouble-free operation. Apply lubricants as outlined within the chart below.

Severe conditions (weather, environment, heavy usage, etc.) **may** require more frequent lubrication. When replacing lubed components, be sure to lubricate during installation procedures. Lubricants specified within the schedule are available from The Braun Corporation. Part numbers of these lubricants and an application illustration are provided on page 34.

⚠WARNING

Maintenance and lubrication procedures must be performed as specified by an authorized service technician. Failure to do so may result in serious bodily injury and/or property damage.

4 Weeks or 100 Cycles	Outboard roll stop hinge (6 places)	** Light oil - See Lubrication Diagram.*
	Roll stop latch (pivot point)	** Light oil - See Lubrication Diagram.*
	Fold actuator pivot points (top quick-release pin and actuator whale mounting pin)	** Light oil - See Lubrication Diagram.*
	Actuator manual release handle pivot points (3) and detent pin	** Light oil - See Lubrication Diagram.*
	Bridge plate end clevis pins	** Light oil - See Lubrication Diagram.*
	Platform fold axles	** Light oil - See Lubrication Diagram.*
	Platform pickup (fold) bearings (2)	** Light oil - See Lubrication Diagram.*
	Horseshoe pivot points (shoulder bolts)	** Light oil - See Lubrication Diagram.*
	Striker back and bridge plate flap key hinges	** Light oil - See Lubrication Diagram.*
	Handrail pivot points (3 points per handrail)	** Light oil - See Lubrication Diagram.*
	Inspect lift for rattles	Adjust as needed (see Quiet-Ride Adjustments on pages 27-29)
1 Year or 1250 Cycles	**** Perform all procedures listed in previous section(s) also***	
	Whale pins - horseshoe bushings	** Anti-Seize* **Note:** *Disassembly required for proper lubrication — see page 34.*
	Bridge plate end pivot pins	** Anti-Seize - See Lubrication Diagram.*
	Bridge plate end slots and bearings	** Light grease - See Lubrication Diagram.*
	Inspect whales for proper alignment with platform bearings	Correct or adjust as necessary.
	Inspect whale slots for excessive wear or damage	Replace if needed.
	Inspect bridge plate end slots for excessive wear or damage	Replace if needed and relubricate - *See Lubrication Diagram.*
	Inspect cotter pins on: • Whale pivot pins (2) • Bridge plate end clevis pins (2) • Platform fold axles (2) • Roll stop latch (2) • Roll stop chain masterlink (2)	Resecure, replace or correct as needed.
	Inspect hairpin cotters (2) on fold actuator	Replace if needed.
	Inspect external snap ring on slide tube idler axle	Resecure, replace or correct as needed.

Maintenance and Lubrication Schedule

1 Year or 1250 Cycles	Inspect roll stop for proper operation	Correct or replace defective parts and/or relubricate. *See Lubrication Diagram.*
	Inspect roll stop latch for proper operation, positive securement, and detached or missing spring	Correct or replace defective parts and/or relubricate. *See Lubrication Diagram.*
	Inspect roll stop gas spring for proper operation, wear, damage and positive securement	Tighten, replace or correct as needed.
	Inspect handrail(s) for proper operation, alignment, wear, damage and positive sceurement	Tighten, replace defective parts or correct as needed.
	Hydraulic Fluid (Pump) - Check level. **Note:** Fluid should be changed if there is visible contamination. Inspect the hydraulic system (cylinder, hoses, fittings, seals, etc.) for leaks if fluid level is low.	Use Dextron III transmission fluid. Check fluid level with **platform lowered fully** and **roll stop unfolded fully**. Fill to within 1/2" of the bottom of the 1-1/2" fill tube (neck).
	Inspect chain adjustment	Adjust if needed. See Chain Assemblies in Systems Descriptions.
	Remove pump module cover(s) and inspect: • Hydraulic hoses, fittings and connections for wear or leaks • Harness cables, wires, terminals and connections for securement or damage • Microswitch for securement and proper adjustment (*See Systems Descriptions for proper adjustment)* • Relay blocks/relays, circuit breaker, fuse (Series 06) and solenoid for securement or damage	Resecure, replace or correct as needed.
	Remove side chain guard and inspect chains, chain bolts, cylinder, clevis idler, and hydraulic connections for wear, damage, misalignment or leaks	Realign, resecure, replace or otherwise correct if needed. See Chain Assemblies in Systems Descriptions.
	Inspect cylinder mounting hardware and clevis lock nut	Tighten or replace if needed. **Note:** Lock nut **must** be replaced if loosened or removed!
	Inspect chain bolt Nylock nuts, hex jamb nuts and jamb nut retainer plate for securement, wear, damage or misalignment	Tighten, correct or replace if needed.
	Remove top chain guard and inspect UHMW rollers, axles, mounting hardware, and chains for wear, damage or misalignment	Realign or replace if needed.
	Inspect roll stop chain for wear, damage, misalignment and securement (one masterlink with two cotter pins)	Resecure, replace or correct as needed.
	Inspect slide tube base UHMW idler for wear, damage, misalignment and securement (snap ring securing axle)	Resecure, replace or correct as needed.
	Inspect platform mounting bolts and 1/2"-13 flanged lock nuts	Tighten and/or replace. **Note:** Flanged lock nuts (1/2"-13) **must be replaced if loosened or removed**. See Platform Angle Adjustment Instructions for details.
	Inspect power cable	Resecure, repair or replace.
	Make sure lift operates smoothly	Realign uprights, apply ** Light Grease* to slide tubes, or correct as needed.
	Mounting	Check to see that the lift is securely anchored to the vehicle and there are no loose bolts, broken welds, or stress fractures.
	Decals and Antiskid	Replace decals if worn, missing or illegible. Replace antiskid if worn or missing. See Decals and Antiskid Section.
	Padding	Replace if damaged, worn or missing.

Systems Descriptions

General Operation

⚠WARNING

Maintenance and repair procedures must be performed as specified by authorized service personnel only. Failure to do so may result in serious bodily injury and/or property damage.

General Operation: L200 Series lifts are powered by an electric/hydraulic system operating one single-acting main hydraulic cylinder for power up and gravity down operation. This combination reduces battery drain and helps prevent lift alignment problems. The hydraulic system directs hydraulic fluid to and from this cylinder which retracts or extends to raise or lower the chain assemblies connected to the telescoping platform slide tube assembly (thus raising and lowering the platform). The hydraulic system folds (raises) the outboard roll stop and a gas spring unfolds (lowers) the roll stop. The platform is folded and unfolded with an electric actuator.

Pump Module: Pump modules are available as a complete quick-service repair unit. See the Pump Module sections for detailed breakdowns on pages 54-57.

Electrical

Power Source: The lift draws its power from a 12 volt DC battery (standard models). Special applications are powered by a 24 volt system.

Ground: The lift electrical system **must be grounded** to the vehicle for proper operation. See the **Chassis Ground Notice** on page 25 of this manual.

Circuit Sentry: This manual reset circuit breaker protects the system from overloads (100 ampere for 12 volt systems and 70 ampere for 24 volt systems). The Circuit Sentry is located as close to the battery as possible for maximum protection. In event of failure, wait 60 seconds, then turn the RESET lever to reset the breaker.

30 Ampere Circuit Breaker: This circuit breaker is an automatic-reset thermally-operated circuit protection device rated at 30 amperes that protects a circuit from being overloaded beyond the safe carrying capacity of the wires. When the breaker heats up to a certain temperature, it interrupts the source of current and, when it cools back down, it automatically resets itself to provide current.

3 Ampere Fuse: This automotive blade type fuse is rated at 3 amperes to protect the built-in shutoff switching inside the platform fold/unfold electric actuator from being overloaded (Series 06 lift models). When more than 3 amperes flow through the fuse, the fuse will be blown and will interrupt the source of the current until the fuse is replaced. Replace only with a 3 ampere fuse. Do not replace with a fuse of a higher ampere rating.

Pump Motor: Motor brushes are **not replaceable**. The pump motor must be replaced if the brushes become worn.

External Electrical "Up" Solenoid: When the platform is below floor level, pressing the UP switch energizes this solenoid. The solenoid directs current to the pump motor which powers the hydraulic pump to raise the platform. The Up/Fold microswitch is activated when the platform reaches floor level. This interrupts the UP control switch circuit which de-energizes the solenoid and removes current to the pump motor and stops the platform. Releasing the UP switch will also de-energize the solenoid removing current to the pump motor and stopping the raising function.

Electrical (continued)

⚠WARNING

Risk of electrical shock! Use extra care when making electrical connections or performing electrical tests.

External Electrical "Down" Solenoid/Hydraulic Valve: The DOWN switch energizes this solenoid which in turn activates the pump down valve permitting oil to return from the cylinder, allowing gravity to lower the platform. Releasing the DOWN switch de-energizes the solenoid which allows the solenoid valve to close. This stops and holds the platform at any desired height.

Troubleshooting: A problem with this solenoid/valve could be electrical or hydraulic. A simple **Quick-Check** troubleshooting procedure can be performed to determine which type of problem is occurring.

Remove all rings, watches, etc. prior to doing any electrical work near the pump motor.

Quick-Check:

Read warning posted at left! Hold a paper clip (or other magnetically attracted object) near the center threaded post while pressing the DOWN switch. If the solenoid post does not magnetically attract the paper clip, there is an electrical problem. If attracted, there is a hydraulic problem.

Note: If this solenoid post is bent at all, the hydraulic valve will not operate.

Microswitch: The microswitch (limit switch) deactivates the electric fold actuator in order to prevent lift/vehicle damage, and/or possible injury caused by the platform not being in the fully-raised position during the Fold and Unfold functions (premature operation). The microswitch is activated when the cylinder clevis contacts it as the cylinder rod retracts fully (platform raises).

Activating the microswitch enables the FOLD/UNFOLD switch circuit. While the microswitch is activated, pressing the UNFOLD switch energizes the Unfold relay and directs current to the actuator motor to unfold the platform.

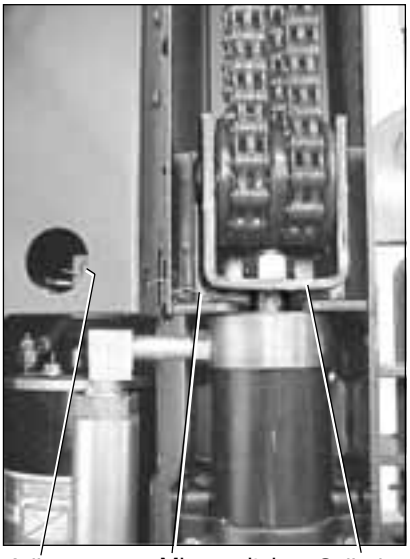
⚠WARNING

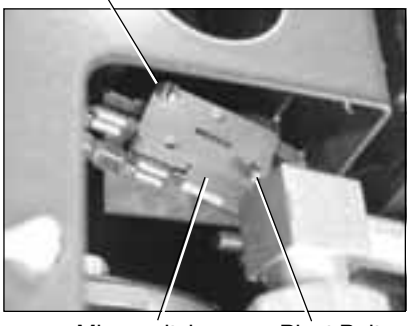
Improper microswitch adjustment may result in serious bodily injury and/or property damage.

When the FOLD switch is pressed, the Fold relay is energized and directs current to the actuator motor to fold the platform. The microswitch is deactivated when the platform is lowered (cylinder rod extends) which disables the FOLD/UNFOLD switch circuit to prevent the platform from folding or unfolding (prevents lift damage).

Location: The microswitch is located in the pump module at the rod end of the cylinder (shown at right). The lever extends into the cylinder channel as shown at right. See the Pump Module section for replacements.

Microswitch Adjustment: The microswitch is factory set and normally requires no adjustment. **Read warning at bottom left!** The switch contacts should not close until the platform is within 1/4" of the fully-up position (cylinder rod completely retracted). The microswitch can be adjusted by carefully loosening the #4-40





hex nut and rotating the switch on its bracket (see photos on opposite page). Observe lever rotation where it protrudes into the cylinder channel. **Note:** Also see Chain Assemblies (pages 42 and 43).

Fold/Unfold Actuator: The electric motor-driven actuator folds and unfolds the platform when the FOLD (In)/UNFOLD(Out) switch is activated. The platform must be in the fully-raised position before the platform can be unfolded or folded (cylinder clevis contacts microswitch). See Microswitch section for further details.

Series **06** (effective January 1999) and newer lift models are equipped with an Acme screw actuator featuring built-in shutoff switching. The actuator will stop travel automatically when it is fully retracted or extended while the FOLD(In)/UNFOLD(Out) switch is pressed. This feature also reduces the potential of actuator damage occurring when lift attendants fail to unfold the platform fully before lowering and raising the platform. This is done by the built-in shutoff switching interrupting the DOWN switch circuit until the actuator reaches full extension (platform fully unfolded). Once the actuator is fully extended, the internal switching is activated allowing the DOWN switch circuit to energize the Down solenoid to release hydraulic fluid to the reservoir and lower the platform when the DOWN switch is pressed.

Series **05** lift models are equipped with an Acme screw actuator or a ball screw actuator. Series **05** actuators feature a built-in overload clutch that slips (ratchets) when reaching load capacity or reaching the end of its stroke. The Series **05** "Unfold" relay is equipped with a capacitor to prolong the unfold cycle.

Hydraulics

M259 Hydraulic Pump: Fixed displacement external gear type hydraulic pump with 12 volt DC electric motor and 76 cubic inch fluid reservoir. The pressure relief valve is factory set at 2450 psi. Refer to the lift posted Serial No./Series No. Identification tag for the Braun Pump Code.

Hydraulic Fluid: Use Dextron III automatic transmission fluid. Make sure the **platform** is **fully lowered** and **roll stop** is **fully unfolded** when checking fluid level or adding fluid. Fill to within 1/2" of the bottom of the 1-1/2" diameter fill tube (neck). **Do not** use a solid plug or fill cap without a breather hole. Doing so will result in pump and/or reservoir damage.

Contamination: Fluid should be changed if there is visible contamination. Inspect the hydraulic system (cylinder, hoses, fittings, seals, etc.) for leaks if fluid level is low.

Cold Weather Applications: The oil can be thinned with two (2) tablespoons of diesel fuel. The oil should be changed when warm weather returns. **Note:** We recommend SAE 10 W non-detergent oil mixed by volume with no more than 30% #1 fuel oil or kerosene for full time cold weather applications.

Manual Backup Pump: The manual hydraulic backup pump system is used to raise and lower the platform in the event of electrical failure. See the lift posted Manual Operating Instructions Decal for operating procedures. See the Hydraulic Diagram and Parts Listing for parts and connections.

⚠WARNING

Lower platform fully before priming or flushing backup pump release valve. Failure to do so may result in serious bodily injury and/or property damage.

Troubleshooting: Failure to raise a platform and platform drift (failure to hold the platform in a raised position) can simply be the result of the backup pump release valve not being closed tightly. Platform drift can also be the result of a loss of pump prime or contamination around the ball within the release valve seat. First, check to see that the valve stem is closed tight. If this does not solve the problem, proceed with the Priming and Flushing Procedure - outlined below.

Priming and Flushing Procedure:

a. **Lower platform fully**.
b. Press the UP switch while simultaneously opening the backup pump release valve (turn stem counterclockwise) until the platform **does not** raise.
c. Close the release valve securely (turn clockwise) and check the backup pump operation by inserting the pump handle and stroking.

External Electrical "Down" Solenoid/Hydraulic Valve: See **M259 External Electrical "Down" Solenoid/Hydraulic Valve** in the Electric portion of Systems Descriptions for additional information (page 38).

Flow Control Valve (pressure compensator): This device allows unrestricted oil flow to the main lift cylinder during the "Up" cycle. The valve meters a limited rate of oil flow from the lift cylinder during the "Down" cycle, (preventing rapid platform descent). This is a nonadjustable fixed valve. The arrow on the valve points toward the pump.

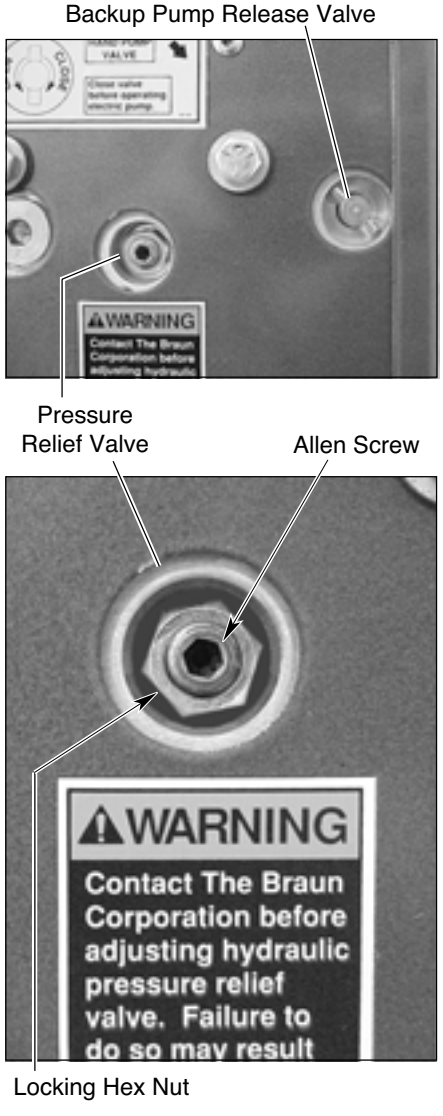
Pressure Relief Valve: This adjustment on the pump unit limits the maximum oil pressure in the system to a safe level. It also keeps the amp draw and battery drain at a minimum when the cylinder reaches full stroke. This valve is pre-set at 2450 psi.

⚠WARNING

Contact The Braun Corporation before adjusting hydraulic pressure relief valve. Failure to do so may result in serious bodily injury and/or property damage.

Do not tamper with this adjustment unless absolutely necessary (will not lift load) and then, **only** after contacting The Braun Corporation.

Adjust valve as detailed below.


Backup Pump Release Valve
Pressure Relief Valve
Allen Screw
Locking Hex Nut
⚠WARNING
Contact The Braun Corporation before adjusting hydraulic pressure relief valve. Failure to do so may result

Pressure Relief Valve Adjustment Procedure:

a. Position a 9/16" socket onto the hex nut retaining the Allen screw. Insert a 3/16" Allen wrench through the socket into the Allen screw. Secure the Allen screw and loosen the hex nut (turn socket with vice grips). **Do not** remove nut or Allen screw.

b. Place load on platform (equal to weight not lifting).

c. Hold the hex nut and turn the Allen screw clockwise until the pump lifts the load. Turn the Allen screw in an additional 3/4 turn, then unscrew it 1/4 turn. This action ensures that relief valve protection has not been adjusted out of the system.

d. Secure the Allen head screw and tighten the hex nut retainer (locking nut) **securely**.

Main Cylinder: It is advisable to replace a cylinder rather than try to repair it, although seal kits are available. Minute scratches and nicks need to be repaired with proper equipment. Failure to do so will cause premature failure of new seals.

⚠WARNING

When testing for cylinder oil leaks, replacing a cylinder or replacing cylinder seals:
- **Lower platform fully**
- **Ensure chains are centered in idler grooves**
- **Replace clevis lock nut with nut supplied.**

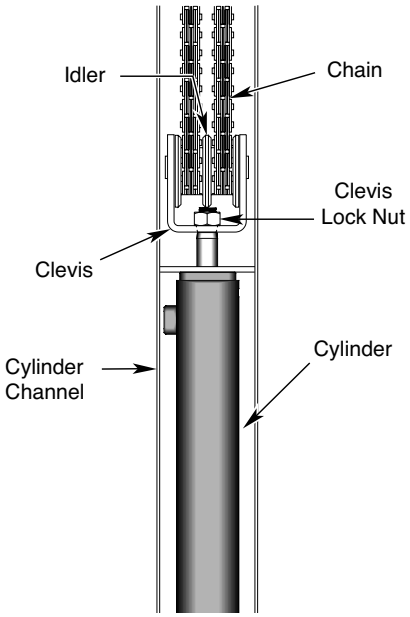
Failure to do so may result in serious bodily injury and/or property damage.

Troubleshooting: Replacement of the cylinder is unnecessary unless platform drift (failure to hold the platform in a raised position) occurs or a loaded platform fails to raise.

The cylinder should be replaced if **any** external leakage from the rod seals is visible. The cylinder should also be replaced if there is **any** internal leakage from the piston seals. Even the slightest amount of drift could result in a potentially hazardous situation. The Internal Leakage Test procedures below will indicate internal leakage.

⚠WARNING

Replace cylinder if tests indicate failure. Failure to do so may result in serious bodily injury and/or property damage.



Cylinder Channel Cutaway View
As viewed from "pump side"

Internal Leakage Test No. 1:

Read warnings posted above!

a. Lower platform fully.

b. Raise platform fully and continue to press UP switch 5 to 10 seconds after fully raised.

c. If any measurable oil flow from a cylinder (piston end) is visible in the clear return line, replace the cylinder. **Note:** Movement of air bubbles away from the cylinder in the return line is a sign of leakage.

Note: If oil leakage is not visible when conducting Internal Leakage Test No. 1, but the platform drifts (**any** measurable descent whatsoever), perform Internal Leakage Test No. 2.

Internal Leakage Test No. 2:

Read warnings posted above!

a. Place load (200 to 250 lbs.) on platform.

b. Raise loaded platform.

c. Allow the loaded platform to set in the raised position overnight or longer.

d. If **any** measurable descent is visible, refer to Section 7.40 of the Troubleshooting Diagnosis Chart for remedies.

Note: When replacing a lift cylinder, a **new** 1/2" fine thread **lock nut must** be used to secure the cylinder clevis to the cylinder rod (nut supplied with cylinder). See illustration above.

Chain Assemblies

The two chain assemblies are factory set and should require no adjustment. Following the initial installation of the lift, ensure that the chains are properly adjusted (per requirements at right). Check again approximately one year or 1250 cycles later to ensure there has been no change. **Read warnings posted on the following page!**

⚠WARNING

Improper chain adjustment may result in serious bodily injury and/or property damage.

When adjusting the chain assemblies, follow the **Requirements (Adjustment Criteria**). The two chain assemblies regulate:

a. Platform height

b. Platform level from side-to-side (left-to-right) when unfolded

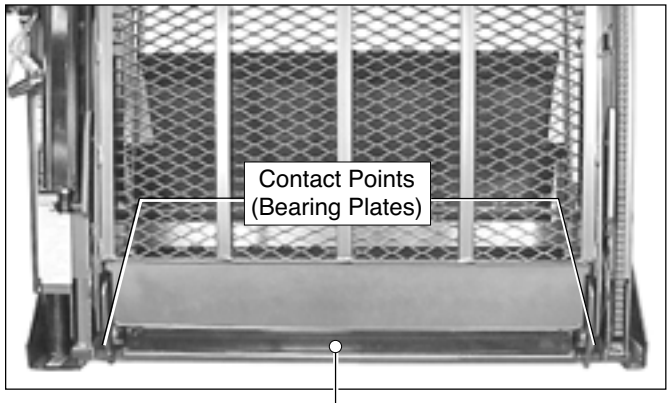
c. Cylinder clevis positioning *

Requirements (Adjustment Criteria):

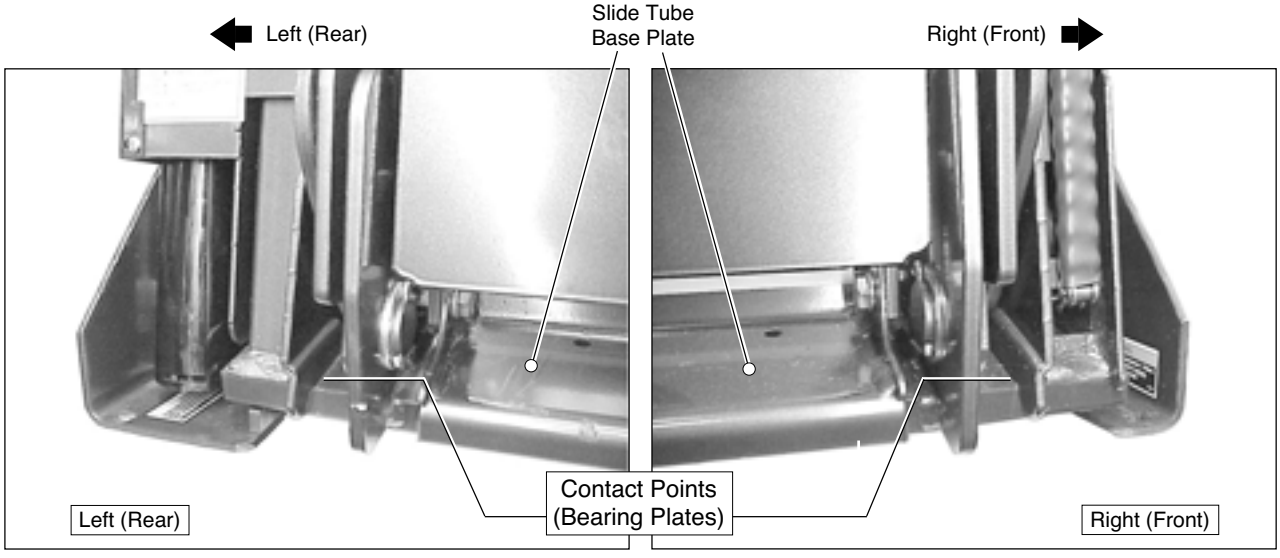
The slide tube base plate should **just contact** the vertical bearing plates (both sides) when the platform is in the **fully raised** position. The two chains should have **equal tension** and therefore be adjusted slowly and evenly so no extra strain is placed on one side or the other.

* There should be just enough slack in the chains to allow the cylinder rod to retract fully (bottom out) when the platform is in the fully raised position. See Microswitch on page 38.

The slide tube base plate should **just contact** the vertical bearing plates (both sides) when the platform is in the **fully raised** position. The two chains must have **equal tension.**



Note: Chain Assemblies Adjustment Procedure on following page.



⚠WARNING

When adjusting chain assemblies:
- **Platform must be fully raised**
- **Platform must be fully unfolded**
- **Platform support must be under platform**

Failure to do so may result in serious bodily injury and/or property damage.

⚠WARNING

Improper chain adjustment may result in serious bodily injury and/or property damage.

Note: When adjusting the chain assemblies, your adjustments **must** be based on the requirements provided on the previous page. If you have any question at all as to proper chain adjustment, call 1-800-THE LIFT.

Chain Adjustment Procedure:

Before beginning:

- Note which side needs adjustment (raised or lowered) — see **Requirements (Adjustment Criteria)** on previous page.
- Inboard chain assembly (long chain) regulates the right (front) side (opposite pump side of lift).
- Outboard chain assembly (short chain) regulates the left (rear) side (pump side of lift).
- Tighten (clockwise) to **raise** — Loosen (counterclockwise) to **lower**.

1. With the platform fully raised and unfolded, examine the platform position based on the **Requirements (Adjustment Criteria)** section outlined on the previous page. **Place an auxiliary support under the platform**.

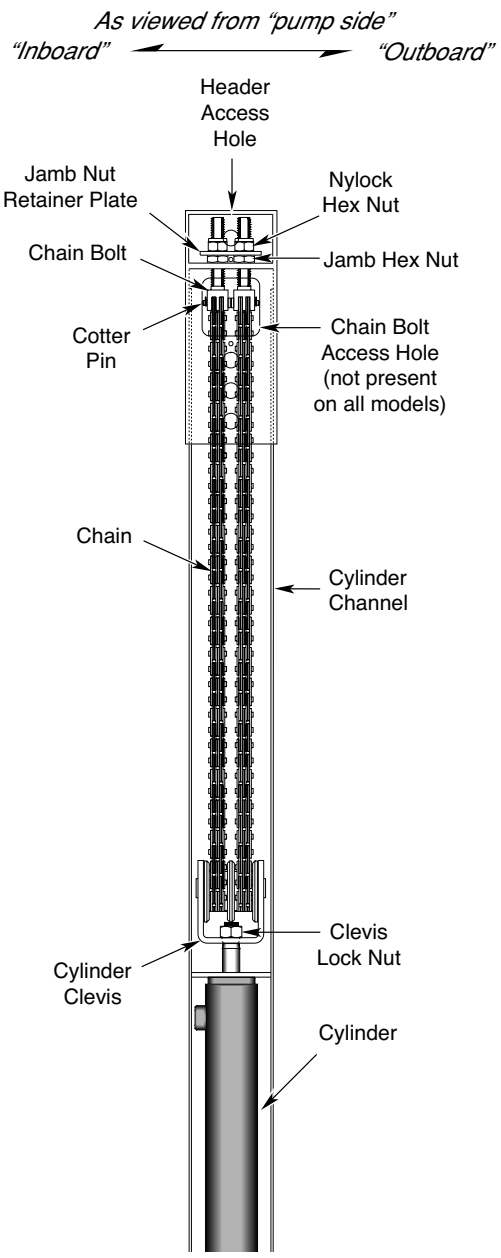
2. Remove the side chain guard and the chain bolt access hole cover (if equipped) - Phillips self-tap screws.

⚠WARNING

When adjusting chain assemblies ensure chains are centered in idler grooves. Failure to do so may result in serious bodily injury and/or property damage.

3. Loosen and remove the Nylock nuts above the jamb nut retainer plate by inserting a 5/8" deep well socket in through the top header access hole. Keep Nylock nuts.

4. Remove and keep the jamb nut retainer plate.



5. Loosen the hex jamb nuts **slightly** to allow adjustment using an 11/16" deep well socket. **Do not** remove the hex jamb nuts.

6. Make the necessary adjustments and reassemble the chain bolt assemblies in reverse order. **Tighten all nuts securely!** Double-check to assure no chain twisting, misalignment, or other damage has occurred. Ensure chains are centered in idler grooves. Check the cylinder clevis/microswitch activation (see Microswitch on page 38). Reposition the side chain guard and the chain bolt access cover (if equipped). Insert Phillips screws.

Troubleshooting Diagnosis Chart

⚠WARNING

Troubleshooting and repair procedures must be performed as specified by an authorized service technician only. Failure to do so may result in serious bodily injury and/or property damage.

If a problem occurs with your lift, **discontinue operation immediately! Do not** attempt repairs yourself. Contact your sales representative or call The Braun Corporation at 1-800-THE LIFT. One of our national service representatives will direct you to an authorized service technician who will inspect your lift.

The cause of the problem can be determined by locating the lift function and related symptom in the Troubleshooting Diagnosis Charts. The specific cause and remedy can then be determined by process of elimination. Wiring Diagrams, Electrical Schematics, a Hydraulic Diagram and a Hydraulic Schematic are provided to aid in troubleshooting.

A Repair Parts section with exploded views and corresponding parts lists is also provided. Correct the problem if possible. If the problem continues, contact The Braun Corporation.

FUNCTION	SYMPTOM	POSSIBLE CAUSE	REMEDY
1.00 NO OPERATION	**1.10 No Power To Lift (Circuit Problem)**	1.11 Circuit Sentry (100 ampere circuit breaker) tripped. Note: 70 ampere Circuit Sentry for 24 volt systems.	Fix overload and reset (turn RESET lever).
		1.12 Battery terminals dirty	Clean and tighten.
		1.13 Chassis ground connection (mounting bolt ground)	Clean and tighten. See **Chassis Ground Notice** on page 25.
		1.14 Battery defective	Replace.
		1.15 Battery discharged	Charge battery.
		1.16 Circuit Sentry defective	Replace.
		1.17 Power cable	Check for loose terminals or broken wire.
	1.20 Power to Lift But No Operation (Switches)	1.21 Interlock (optional) circuit incomplete	Correct or replace.
		1.22 30 Ampere circuit breaker defective	Replace.
		1.23 Loose connection	Clean and tighten.
		1.24 Broken wire	Repair.
		1.25 Wire terminal	Crimp tightly to wire.
		1.26 Solenoid defective	Replace.
		1.27 Switch defective	Replace.
		1.28 Relay defective	Replace.
2.00 PLATFORM UNFOLD (Out)	**2.10 No Operation**	2.11 Platform not fully raised	Raise platform fully.
		2.12 3 Ampere fuse defective (Series 06)	Replace.
		2.13 See 1.00	
		2.14 Microswitch (in pump module) defective or out of adjustment	Replace or adjust. See Systems Descriptions for microswitch adjustment.
		2.15 Chain(s) misaligned, out of adjustment or disconnected (clevis out of position)	Connect, adjust or otherwise correct.
		2.16 Actuator harness disconnected, damaged or otherwise defective	Connect, repair or replace.
		2.17 Actuator microswitch (internal - Series 06) defective	Replace actuator.
		2.18 Actuator defective	Repair or replace.

continued

Troubleshooting Diagnosis Chart

FUNCTION	SYMPTOM	POSSIBLE CAUSE	REMEDY
continued **2.00 PLATFORM UNFOLD (Out)**	**2.20 Faulty or Sluggish Operation**	2.21 Misalignment or damage to: • Whales • Platform pickup (fold) bearings • Platform fold axles • Bridge plate ends • Striker back • Bridge plate flap • Handrails and/or corresponding pins, bushings, bearings and mounting hardware	Correct/Replace/Lubricate. See Maintenance and Lubrication Diagram.
		2.22 Mechanical binding	Check and correct.
		2.23 Misalignment of uprights	Correct. See Lift Positioning on pages 10-13.
		2.24 See 2.14, 2.16, 2.17, and 2.18	
3.00 Platform DOWN	**3.10 No Operation**	3.11 Platform not unfolded fully	Unfold platform fully.
		3.12 See 2.12 and 2.17 (Series 06)	
		3.13 See 1.00	
		3.14 Mechanical binding	Check and correct.
		3.15 Flow control valve defective	Replace.
		3.16 Down solenoid/valve: Poor connection, bent shaft or contaminated filter	Check for loose connection or replace. See Systems Descriptions for Quick-Check Procedure.
	3.20 Faulty or Sluggish Operation	3.21 See 3.14 and 3.15	
		3.22 Misalignment of uprights	Correct. See Lift Positioning on pages 10-13.
		3.23 Restriction in hydraulic lines	Check for contamination or kinks
		3.24 Hydraulic fluid too thick due to cold climate	Thin with Diesel fuel - 2T. Change in spring. See Systems Descriptions for full-time cold climate specifications.
		3.25 Flow control valve restricted	Replace
4.00 ROLL STOP LATCH Faulty Unlatching	**4.10 Faulty Unlatching**	4.11 Platform not fully lowered	Lower platform
		4.12 Obstruction under platform preventing latch foot from contacting surface	Remove obstruction or lower platform in different location (level surface)
		4.13 Roll stop damaged (bent, deformed or misaligned)	Correct or replace
		4.14 Roll stop latch bent, deformed or misaligned	Correct or replace
		4.15 Lack of lubrication (latch)	Lubricate. See Maintenance and Lubrication Schedule.
5.00 OUTBOARD ROLL STOP	**5.10 Faulty Unfold**	5.11 See 4.10	
		5.12 Gas spring weak or defective	Replace gas spring
		5.13 Lack of lubrication (roll stop)	Lubricate. See Maintenance and Lubrication Schedule and Diagram.
		5.14 Excessive lift cylinder drag	Replace lift cylinder
	5.20 Faulty Fold	5.21 Chain disconnected from roll stop	Correct
		5.22 See 1.00, 4.13, 4.15, 7.10 and 7.20	

Troubleshooting Diagnosis Chart

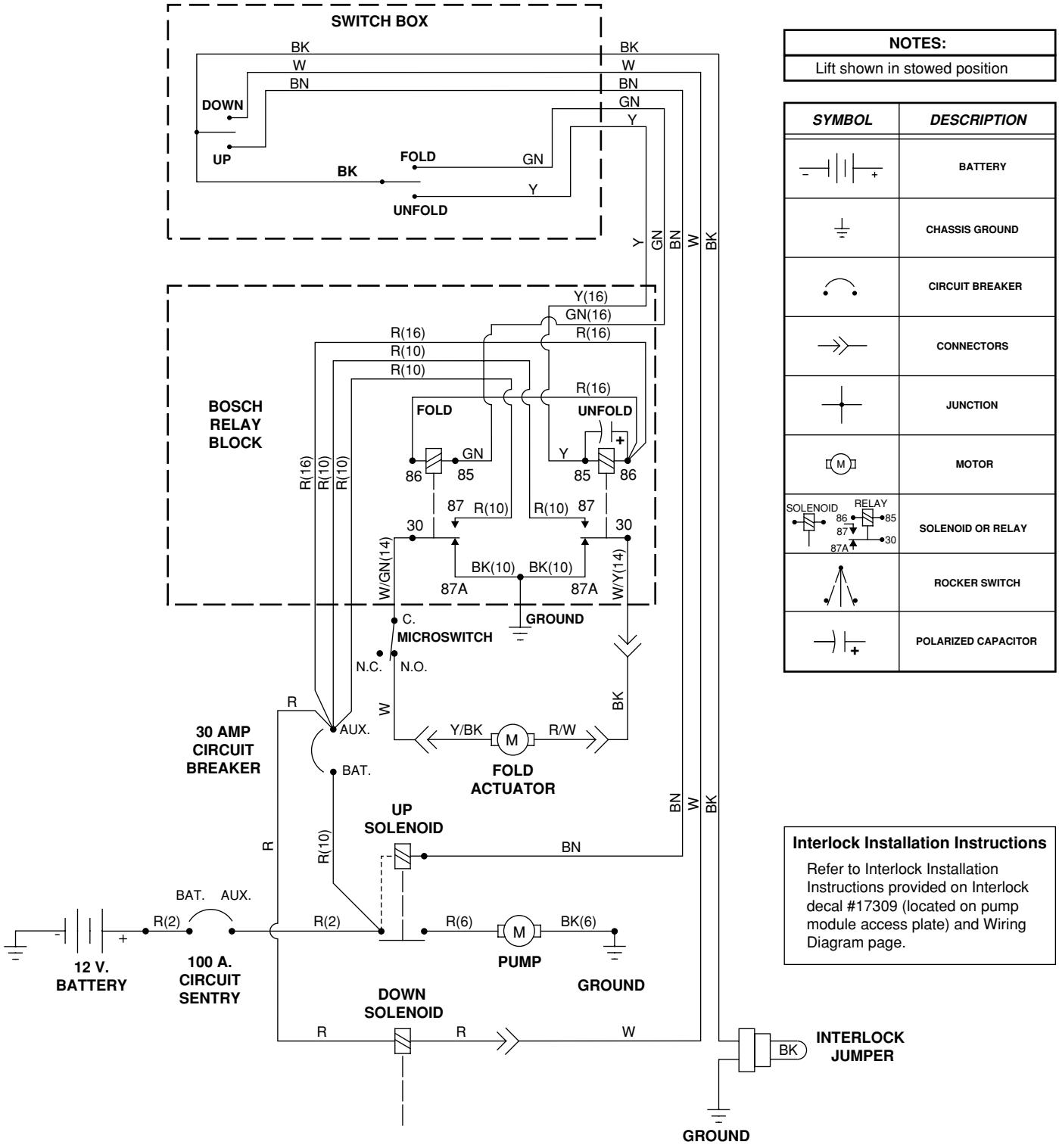
FUNCTION	SYMPTOM	POSSIBLE CAUSE	REMEDY
6.00 ROLL STOP LATCH Faulty Latching	**6.10 Faulty Latching**	6.11 Platform not raised 2" above the ground level	Raise platform 2" minimum.
		6.12 Damaged, detached or missing latch spring	Correct or replace.
		6.13 See 4.13, 4.14, and 4.15	
7.00 PLATFORM UP	**7.10 No Operation**	7.11 Backup pump valve not closed	Close valve.
		7.12 See 1.00 and 3.14	
		7.13 Up solenoid not functioning	Check for loose connection or replace.
		7.14 Motor brushes worn	Replace pump motor.
	7.20 Motor Runs But Doesn't Lift	7.21 See 7.11	
		7.22 Low hydraulic fluid supply. **Note:** Fluid should be changed if there is visible contamination. Inspect the hydraulic system for leaks if fluid level is low.	Add Dextron III transmission fluid. Check fluid level with **platform fully lowered** and **roll stop fully unfolded.** See Systems Descriptions for details.
		7.23 Leak in hydraulic system	Repair
		7.24 Cylinder leaks	Repair or replace. See Systems Descriptions. Always use **new** lock nut to secure clevis!
		7.25 Down solenoid/valve stuck open due to contamination or otherwise defective	Replace.
	7.30 Sluggish Operation	7.31 Relief valve set too low	Factory set at 2450 psi. See Systems Descriptions for adjustment procedure.
		7.32 Excessive load	Remove excess weight
		7.33 See 3.20, 7.14 and 7.20	
	7.40 Platform Drifts Down	7.41 Backup pump release valve contamination	Flush clean or replace. See Systems Descriptions for Priming and Flushing procedure.
		7.42 See 7.11 and 7.20	
8.00 PLATFORM FOLD (In)	**8.10 No Operation**	8.11 See 2.10	
	8.20 Faulty Operation	8.21 See 2.20	
9.00 MANUAL BACKUP PUMP	**9.10 Faulty UP Operation**	9.11 See 7.20 and 7.41	Prime. See Systems Descriptions for Priming and Flushing procedure.
		9.12 Lost prime	Check tightness or leaks.
		9.13 Air leak at backup pump to pump interface (O-rings)	

Troubleshooting Diagnosis Chart

FUNCTION	SYMPTOM	POSSIBLE CAUSE	REMEDY
9.00 MANUAL BACKUP PUMP	**9.20 Faulty DOWN Operation**	9.21 See 3.20	
10.00 HANDRAILS	**10.10 Faulty Operation**	10.11 Pivot points (mounting bolts) improperly adjusted (tightness), missing or otherwise damaged	Correct or replace.
		10.12 Handrail bent, deformed, misaligned or otherwise damaged	Correct or replace.
		10.13 Lack of lubrication	See Maintenance and Lubrication Schedule.
		10.14 Handrail stop brackets too tight	Loosen. See Quiet-Ride Adjustments on page 29.

Series 05 Electrical Schematic

Note: Shown with lift in stowed position.



NOTES:
Lift shown in stowed position

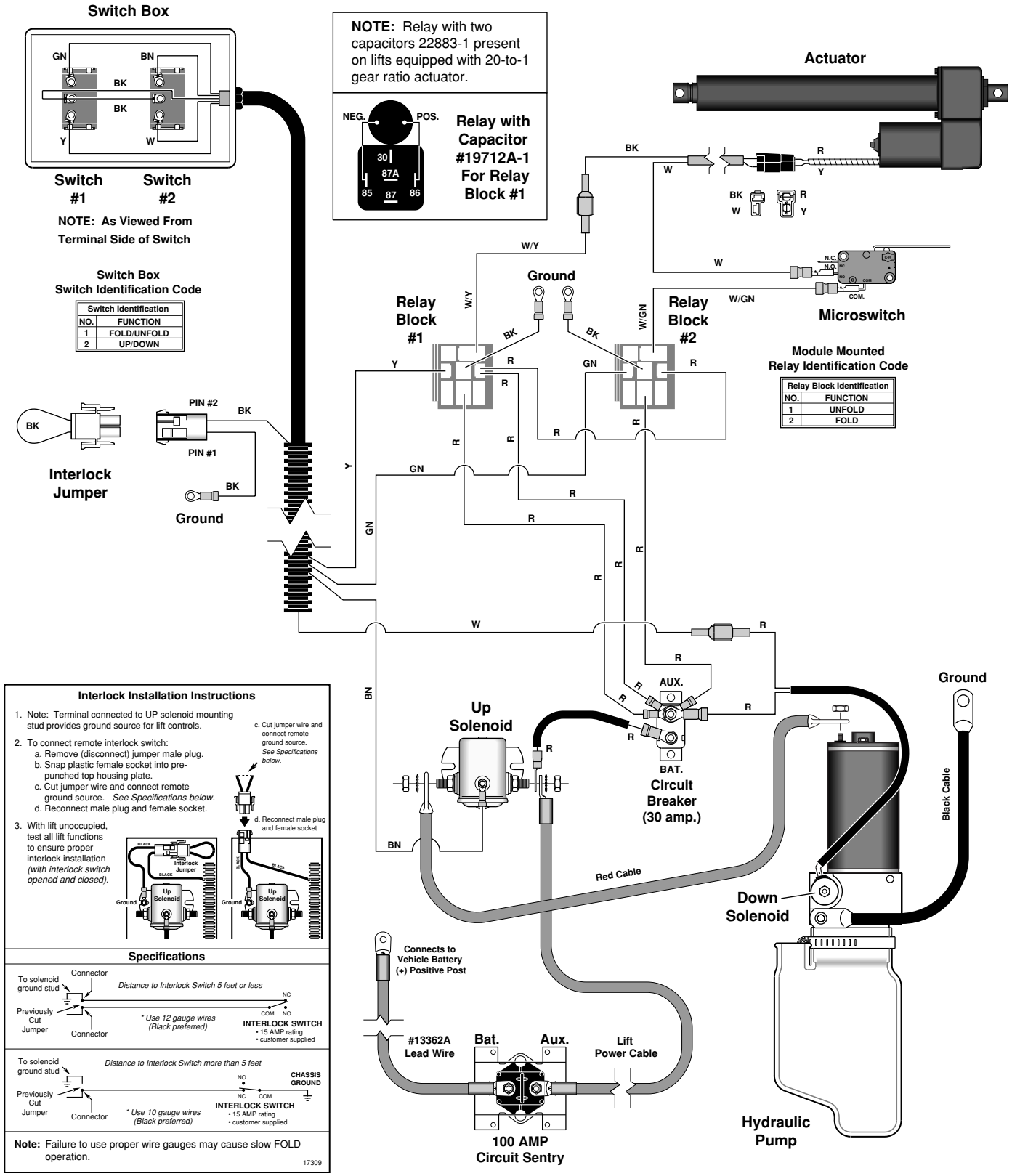
SYMBOL	*DESCRIPTION*
	BATTERY
	CHASSIS GROUND
	CIRCUIT BREAKER
	CONNECTORS
	JUNCTION
	MOTOR
	SOLENOID OR RELAY
	ROCKER SWITCH
	POLARIZED CAPACITOR

Interlock Installation Instructions

Refer to Interlock Installation Instructions provided on Interlock decal #17309 (located on pump module access plate) and Wiring Diagram page.

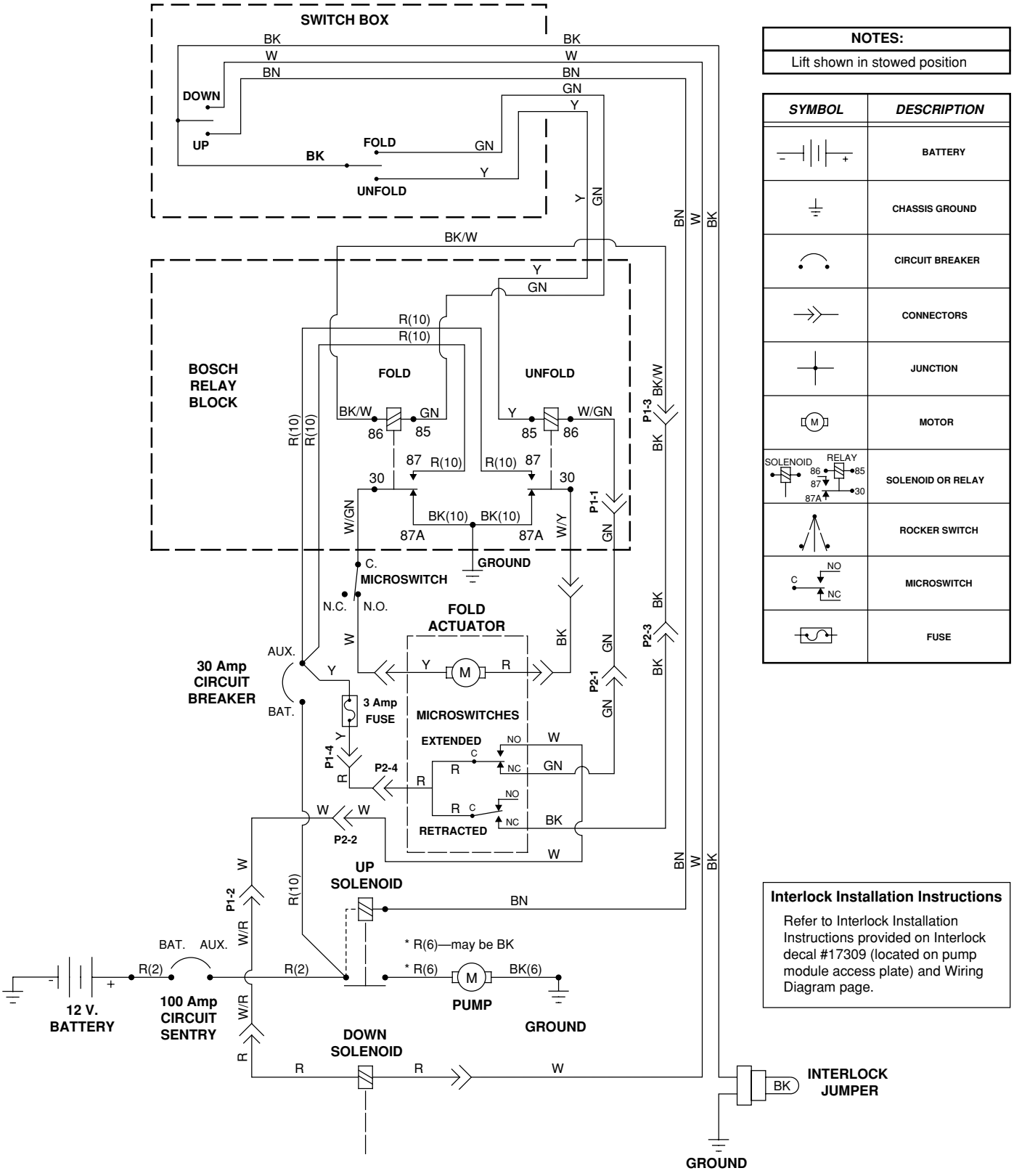
Series 05 Wiring Diagram

Note: Shown with lift in stowed position.



Series 06 Electrical Schematic

Note: Shown with lift in stowed position.



NOTES:
Lift shown in stowed position

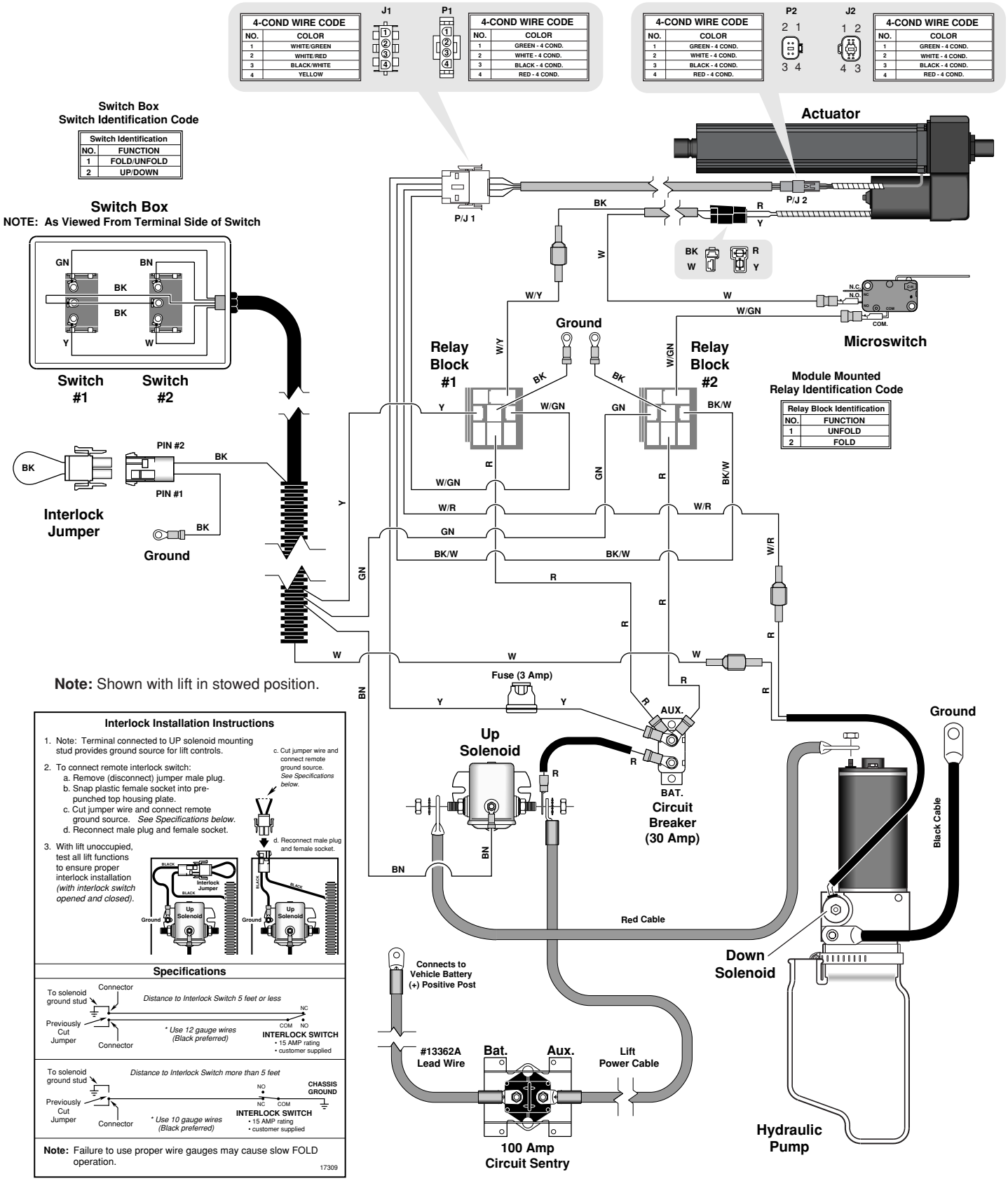
SYMBOL	*DESCRIPTION*
	BATTERY
	CHASSIS GROUND
	CIRCUIT BREAKER
	CONNECTORS
	JUNCTION
	MOTOR
	SOLENOID OR RELAY
	ROCKER SWITCH
	MICROSWITCH
	FUSE

Interlock Installation Instructions

Refer to Interlock Installation Instructions provided on Interlock decal #17309 (located on pump module access plate) and Wiring Diagram page.

Series 06 Wiring Diagram

Note: Shown with lift in stowed position.



Hydraulics Parts List

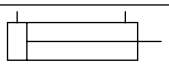
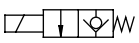
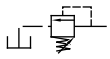
✘ Seal Kits: If repairing a cylinder, order Seal Kit 1500-0500.

✔ Manual Instructions Decal: Decal 18118 (item 13 - shown) is posted on L200 Series pump modules. Decal 14667 is supplied in Backup Pump Retrofit Kit 205-0550-12 (item 6).

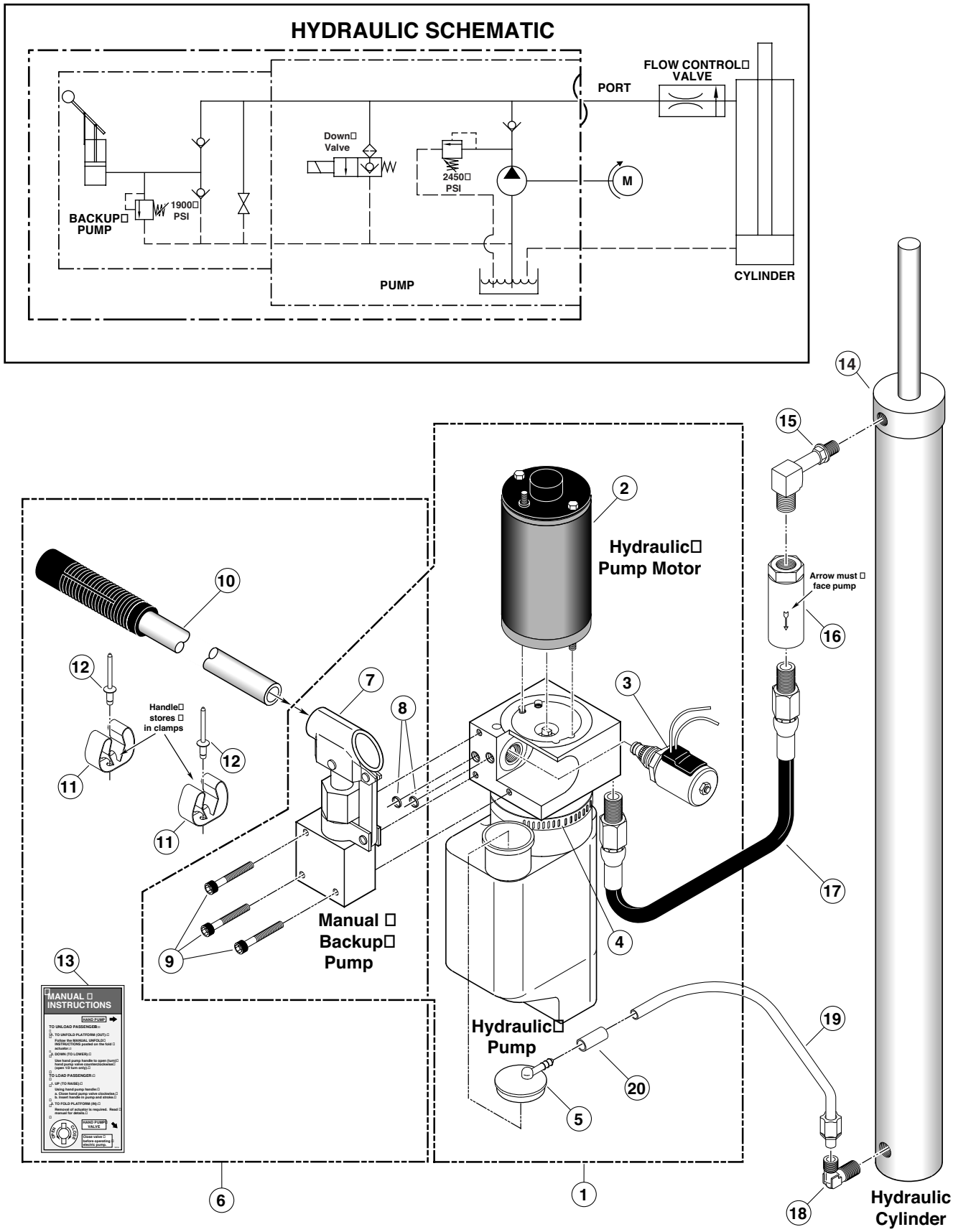
* Raw Material Items: Ordered and priced per inch. Order length specified in description.

			Part Numbers			
				L205U64ARS		
			L205UARS	L208U64ARS	L208UARS	
Item	Qty	Description	L211U58ARS	L211U64ARS	L211U70ARS	L211U325170
1	1	Pump Assembly (M259 **with** reservoir/**with** Backup pump)	24357A	24357A	24357A	17209A
2	1	Motor, Pump, 12 volt	14785-IS	14785-IS	14785-IS	14785-IS
3	1	Valve, “Down” (with solenoid)	14901	14901	14901	14901
4	1	Clamp, Reservoir-H-48 (M259)	17069	17069	17069	17069
5	1	Cap, Reservoir filler (M259)	16935	16935	16935	16935
6	1	Hand Pump (Backup pump) Retrofit Kit (M259)	205-0550-12	205-0550-12	205-0550-12	205-0550-12
7	1	Hand Pump (Backup pump) **only**	17350	17350	17350	17350
8	2	O-Ring, Hand Pump Mounting (M259)	17351	17351	17351	17351
9	3	Screw, 1/4"-20 x 1-3/4", Allen Head	17352	17352	17352	17352
10	1	Handle with Grip	17206A	17206A	17206A	17206A
11	2	Clamp, Spring	12350	12350	12350	12350
12	2	Rivet, Pop	11513	11513	11513	11513
13	1	Decal, Manual Instructions (Hand Pump)✔	18118	18118	18118	18118
14	1	Cylinder✘	C1524-2404	C1528-2404	C1531-2404	C1531-2404
15	1	Elbow, 1/4" NPT to 3/8", O-Ring - 90° Male Extended	19602	19602	19602	19602
16	1	Valve, Pressure Compensator	11392	11392	11392	11392
17	1	Hose Assembly, 1/4" (Swivel/Swivel)	800-2420	800-2420	800-2420	800-2420
18	1	Elbow, 1/8" NPT to 1/4" Plastic	11222	11222	11222	11222
19	*	Hose, 1/4" Polyethylene (order 22 inches)	* 11144R	* 11144R	* 11144R	* 11144R
20	*	Hose, 3/8" Polyethylene (order 2 inches)	* 15694R	* 15694R	* 15694R	* 15694R

Hydraulics Schematic Symbols Legend

Description	Symbol	Description	Symbol
Pump, Fixed Displacement		Cylinder, Single Acting	
Pump, Motor		Manual Shutoff Valve	
Reservoir, Vented		Pressure Compensated Flow Control Valve	
Backup Pump		2 Way, 2 Position, Normally Closed, Poppet Style Solenoid Control Valve	
Check Valve		Relief Valve	
Hydraulic Port		Filter Screen	

Hydraulics Diagram and Schematic



Series **05** Pump Module Parts List

Note: Before ordering parts, refer to the Braun Serial No./Series No. Identification tag for the lift model number and lift series number.			Series **05** **Pump Modules**	
			205-0500-12C	**208-0500-12C**
Item	**Qty.**	**Description**	**Part No.**	**Part No.**
	1	**Pump Module (complete)**	205-0500-12C	208-0500-12C
1	1	Pump Assembly (M259 **with** Backup Pump)	17209A	17209A
2	1	Housing Weldment	17308A	17308A
3	1	Bracket, Weldment, Microswitch	205-0502	205-0502
4	1	Control Box Assembly (**with** harness)	205-0568-1	208-0568-1
5	1	Control Box, Bracket-mount	16970A	16970A
6	1	Control Box (only)	16932	16932
7	1	Clip, Bracket-mount	16933	16933
8	3	Screw, #6-20 x 1-1/4", Pan Head, Phillips	16945	16945
9	1	Face Plate and Switch Assembly	17909A	17909A
10	1	Face Plate	16931	16931
11	1	Switch, S.P.D.T., Rocker (Unfold/Fold) - Orange	17332	17332
12	1	Switch, S.P.D.T., Rocker (Down/Up) - Red	16942	16942
13	4	Screw, #6-20 x 3/8", Pan Head, Phillips	16944	16944
14	1	Strain Relief (SR 7W-2)	11352	11352
15	1	Strain Relief (8P-2)	11412	11412
16	1	Harness (**without** control box)	205-0568	208-0568
17	1	Relay Block Assembly (**without** relays) Series **05**	205-0568-2	205-0568-2
18	1	Relay, 30 amp S.P.D.T. 12 volt (plastic)	18087	18087
19	1	Relay, with Capacitor ✘ See note below	✘19712A-1	✘19712A-1
20	4	Pop Rivet, 3/16" - .13"/.25"	11513	11513
21	1	Jumper, Interlock	15708A	15708A
22	1	Solenoid (UP)	10565	10565
23	5	Nut, #10-24, Hex with lock washer	17388	17388
24	1	Lead Wire, #6 Gauge (Red-9")	17304A	17304A
25	1	Lead Wire, #6 Gauge (Black-9")	13929	13929
26	1	Nut, 5/16"-18, Hex Lock	11387	11387
27	6	Bolt, 5/16"-18 x 1/2" * See note below	* 10012	* 10012
28	1	Microswitch, S.P.D.T.	14218	14218
29	1	Nut, #4-40, Hex with Lock Washer	19537	19537
30	1	Screw, #4-40 x 5/8", Round Head	14810	14810
31	1	Circuit Breaker with 10 Gauge Lead	205-0543	205-0543
32	4	Washer, 1/4", Flat	10062	10062
33	4	Grommet	17207	17207
34	1	Hose Assembly with Flow Control Valve	800-2420A	800-2420A
35	1	Valve, Pressure Compensator	11392	11392
36	2	Washer, #10 Flat	11541	11541
37	1	Actuator Harness Assembly - Series **05**	205-5510	205-5510
38	1	Decal, Manual Instructions, Backup Pump	18118	18118
39	1	Decal, Warning, Pressure Relief Valve Adjustment	22249	22249

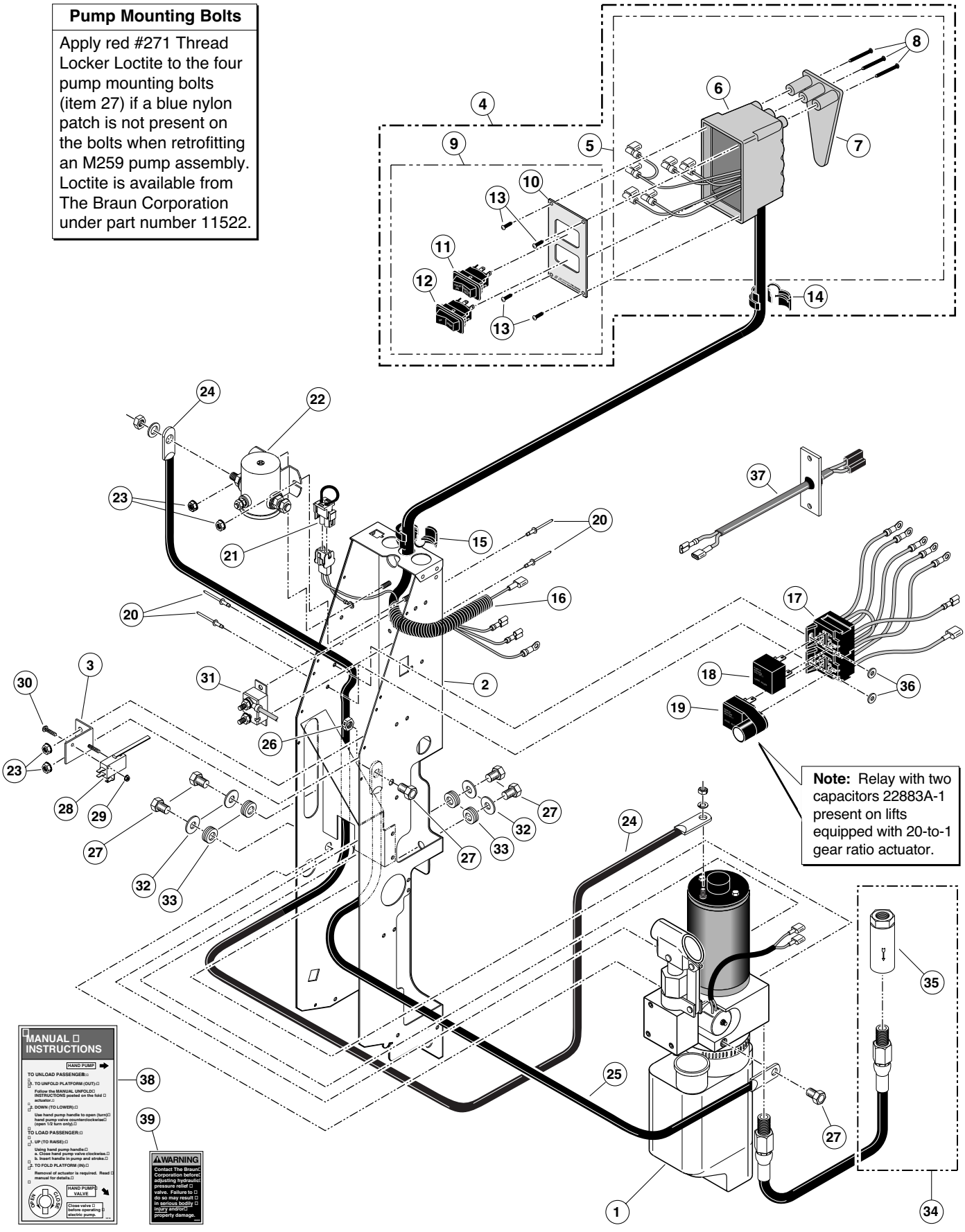
* Apply red #271 Thread Locker Loctite to the four pump mounting bolts (item 27) if a blue nylon patch is not present on the bolts when retrofitting an M259 pump assembly. Loctite is available from The Braun Corporation under part number 11522.

✘ Relay with two capacitors 22883A-1 present on lifts equipped with 20-to-1 gear ratio actuator.

Series 05 Pump Module Diagram

Pump Mounting Bolts

Apply red #271 Thread Locker Loctite to the four pump mounting bolts (item 27) if a blue nylon patch is not present on the bolts when retrofitting an M259 pump assembly. Loctite is available from The Braun Corporation under part number 11522.



Note: Relay with two capacitors 22883A-1 present on lifts equipped with 20-to-1 gear ratio actuator.

Series 06 Pump Module Parts List

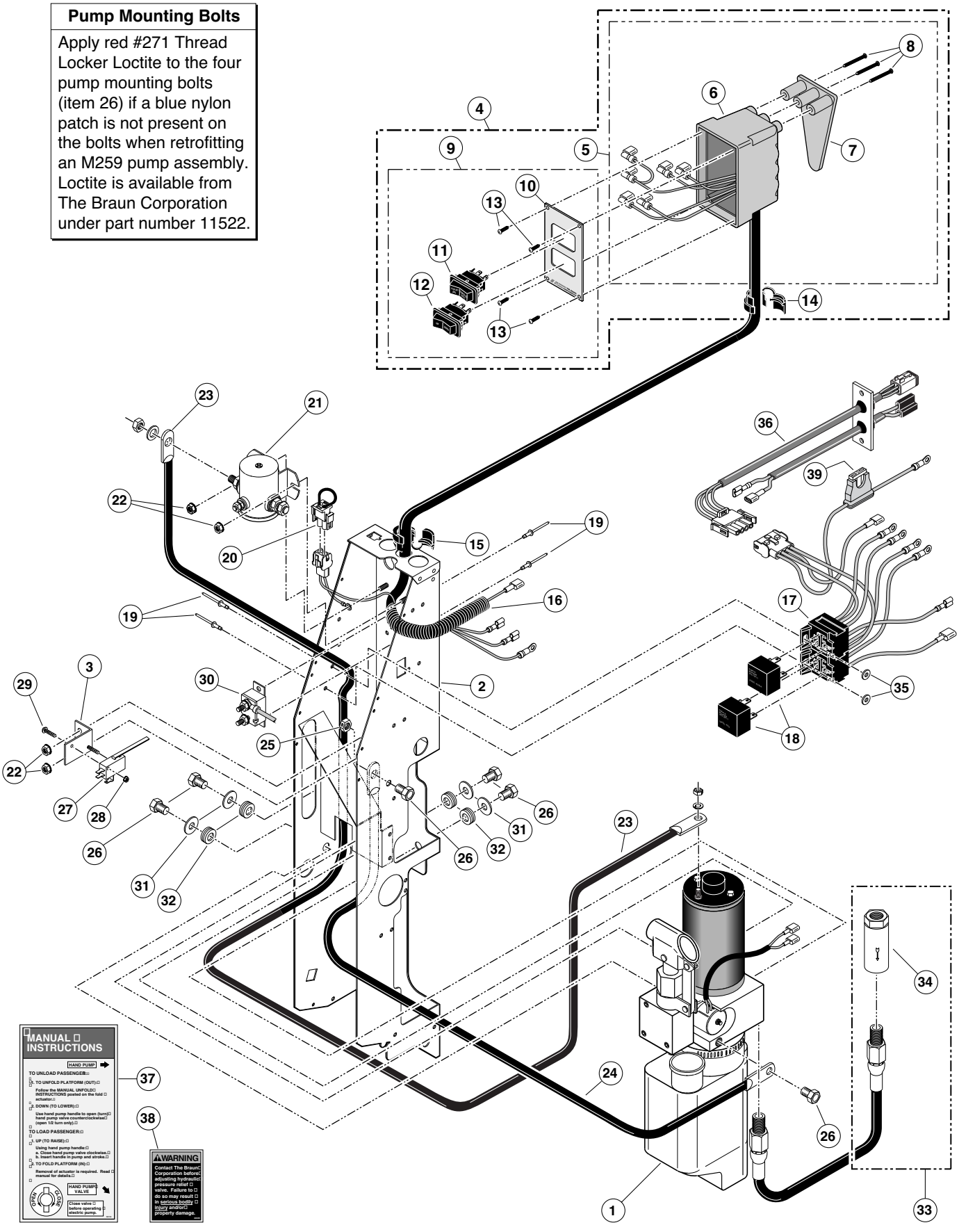
Note: Before ordering parts, refer to the Braun Serial No./Series No. Identification tag for the lift model number and lift series number.			Series **06** **Pump Modules**	
Item	**Qty.**	**Description**	**205-6500-12C Part No.**	**208-6500-12C Part No.**
	1	**Pump Module (complete)**	205-6500-12C	208-6500-12C
1	1	Pump Assembly (M259 **with** Backup Pump)	24357A	24357A
2	1	Housing Weldment	17308A	17308A
3	1	Bracket, Weldment, Microswitch	205-0502	205-0502
4	1	Control Box Assembly (**with** harness)	205-0568-1	208-0568-1
5	1	Control Box, Bracket-mount	16970A	16970A
6	1	Control Box (only)	16932	16932
7	1	Clip, Bracket-mount	16933	16933
8	3	Screw, #6-20 x 1-1/4", Pan Head, Phillips	16945	16945
9	1	Face Plate and Switch Assembly	17909A	17909A
10	1	Face Plate	16931	16931
11	1	Switch, S.P.D.T., Rocker (Unfold/Fold) - Orange	17332	17332
12	1	Switch, S.P.D.T., Rocker (Down/Up) - Red	16942	16942
13	4	Screw, #6-20 x 3/8", Pan Head, Phillips	16944	16944
14	1	Strain Relief (SR 7W-2)	11352	11352
15	1	Strain Relief (8P-2)	11412	11412
16	1	Harness (**without** control box)	205-0568	208-0568
17	1	Relay Block Assembly (**without** relays) Series **06**	205-6568-2	205-6568-2
18	1	Relay, 30 amp S.P.D.T. 12 volt (plastic)	18087	18087
19	4	Pop Rivet, 3/16" - .13"/.25"	11513	11513
20	1	Jumper, Interlock	15708A	15708A
21	1	Solenoid (UP)	10565	10565
22	5	Nut, #10-24, Hex with lock washer	17388	17388
23	1	Lead Wire, #6 Gauge (Red-9")	17304A	17304A
24	1	Lead Wire, #6 Gauge (Black-9")	13929	13929
25	1	Nut, 5/16"-18, Hex Lock	11387	11387
26	6	Bolt, 5/16"-18 x 1/2" * See note below	* 10012	* 10012
27	1	Microswitch, S.P.D.T.	14218	14218
28	1	Nut, #4-40, Hex with Lock Washer	19537	19537
29	1	Screw, #4-40 x 5/8", Round Head	14810	14810
30	1	Circuit Breaker with 10 Gauge Lead	205-0543	205-0543
31	4	Washer, 1/4", Flat	10062	10062
32	4	Grommet	17207	17207
33	1	Hose Assembly with Flow Control Valve	800-2420A	800-2420A
34	1	Valve, Pressure Compensator	11392	11392
35	2	Washer, #10 Flat	11541	11541
36	1	Actuator Harness Assembly - Series **06**	205-6510	205-6510
37	1	Decal, Manual Instructions, Backup Pump	18118	18118
38	1	Decal, Warning, Pressure Relief Valve Adjustment	22249	22249
39	1	Fuse, 3 Ampere - ATO (Blade)	18440F3	18440F3

* Apply red #271 Thread Locker Loctite to the four pump mounting bolts (item 26) if a blue nylon patch is not present on the bolts when retrofitting an M259 pump assembly. Loctite is available from The Braun Corporation under part number 11522.

Series 06 Pump Module Diagram

Pump Mounting Bolts

Apply red #271 Thread Locker Loctite to the four pump mounting bolts (item 26) if a blue nylon patch is not present on the bolts when retrofitting an M259 pump assembly. Loctite is available from The Braun Corporation under part number 11522.


MANUAL INSTRUCTIONS
HAND PUMP
TO UNLOAD PASSENGER:
TO UNFOLD PLATFORM (OUT):
Follow the MANUAL UNFOLD INSTRUCTIONS posted on the fold actuator.
DOWN (TO LOWER):
Use hand pump handle to open (turn) hand pump valve counterclockwise (open 1/2 turn only).
TO LOAD PASSENGER:
UP (TO RAISE):
Using hand pump handle:
a. Close hand pump valve clockwise.
b. Insert handle in pump and stroke.
TO FOLD PLATFORM (IN):
Removal of actuator is required. Read manual for details.
HAND PUMP VALVE
OPEN
CLOSE
Close valve before operating electric pump.
WARNING
Contact The Braun Corporation before adjusting hydraulic pressure relief valve. Failure to do so may result in serious bodily injury and/or property damage.

L205 Series Repair Parts

Unfold the following page for the applicable lift **Exploded View** (pages 59A and 60A)

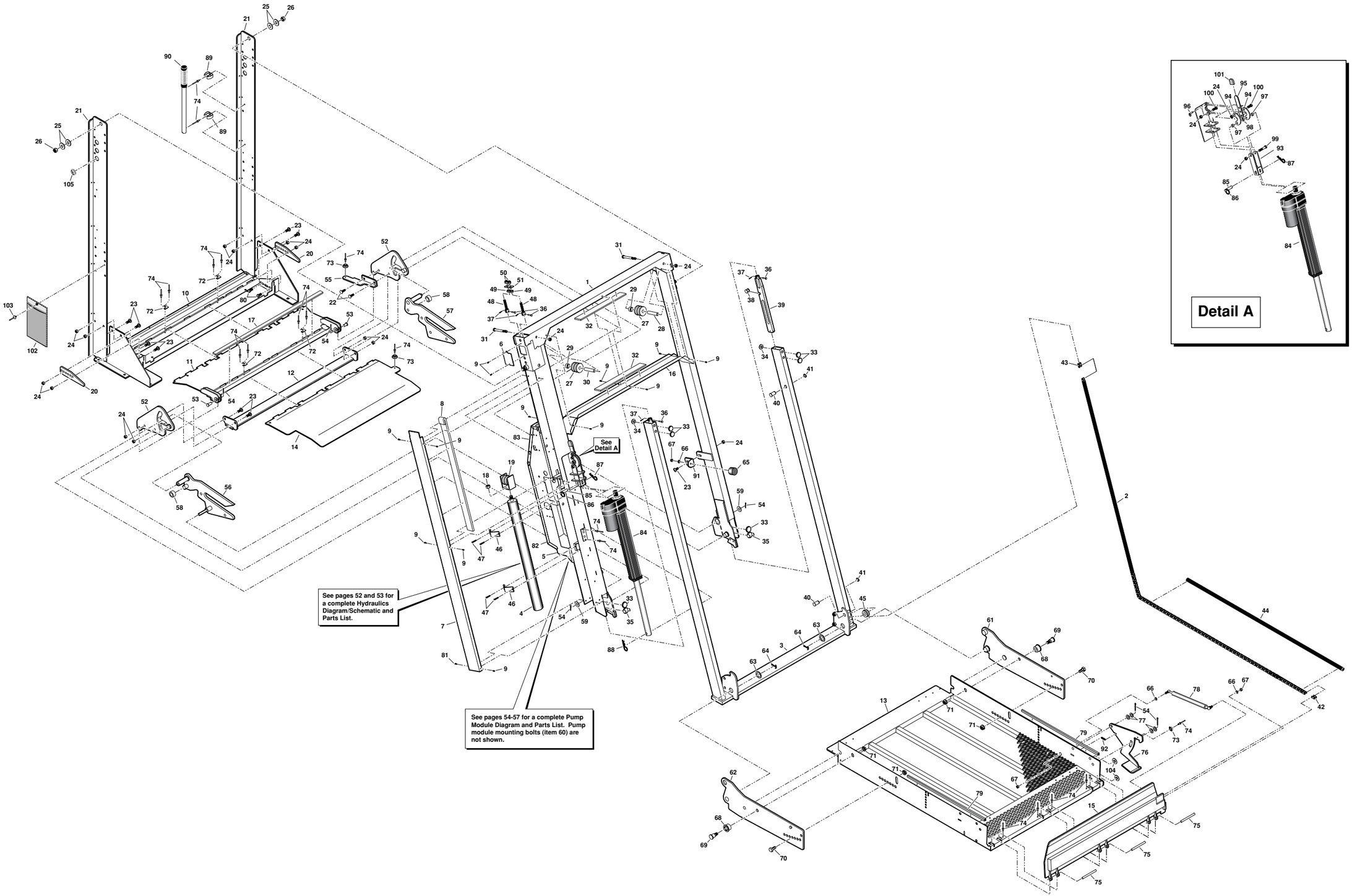
Part Number of Items Dedicated per Lift Model

Item	Description	L205UARS	L205U64ARS	L208U64ARS	L208UARS	Qty.
1	Horseshoe Weldment	211-6230-58	211-6230-64	211-6233-64	211-6233-70	1
2	Chain with Shrink Tube (#40)	211-5850	211-6450	211-6450	211-7050	1
3	Slide Tube Weldment	211-5430-58	211-5430-64	211-5433-64	211-5433-70	1
4	Cylinder	C1524-2404	C1528-2404	C1528-2404	C1531-2404	1
5	Module *(see Pump Module for breakdown)*	205-6500-12C	205-6500-12C	205-6500-12C	208-6500-12C	1
6	Cover, Chain Bolt	Not Used	205-0737	205-0737	205-0737	1
7	Side Guard	258-4735	264-4735	264-4735	270-4735	1
8	Cap Tape, 1-1/2" Wide *(length per Model)*	10416R027.5	10416R029	10416R029	10416R028	1
9	Screw, #8-18 x 3/8", Self-Tap, (Pan Head)	10075 *(Qty: 18)*	10075 *(Qty: 20)*	10075 *(Qty: 20)*	10075 *(Qty: 20)*	*per Model*
10	Base Plate Weldment	211-0130-30	211-0130-30	211-0130-33	211-0130-33	1
11	Striker Back Weldment **only**	205-0140	205-0140	233-4140	233-4140	1
	Striker Back **Kit**	205-0140A	205-0140A	233-0140A	233-0140A	1
12	Tie Bar Weldment	205-0730	205-0730	233-0730	233-0730	1
13	Platform Weldment (less Roll Stop)	211-3050W	211-3050W	211-3350W	211-3350W	1
14	Striker Flap	205-0731	205-0731	233-0731	233-0731	1
15	Roll Stop Weldment	211-0345-30	211-0345-30	211-0345-33	211-0345-33	1
16	Cover, Header	205-0736	205-0736	233-0736	233-0736	1
17	Weatherstrip, Self-Adhesive *(length per Model)*	12461R027	12461R027	12461R030	12461R030	1

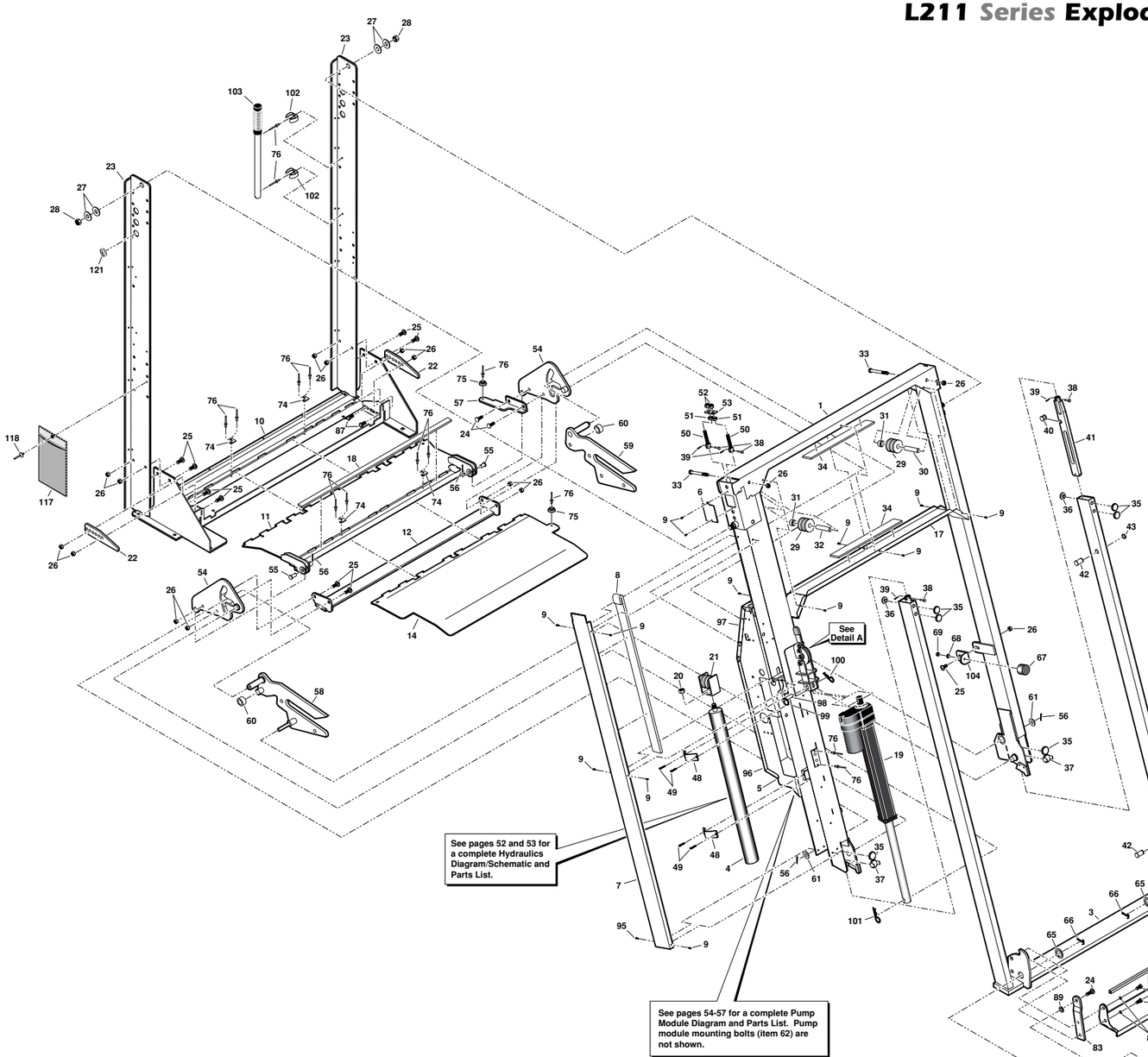
Part Numbers of Items Identical on All Models

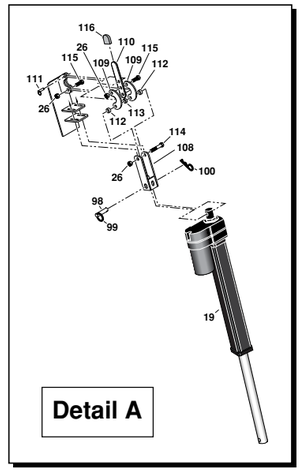
Item	Description	Part No.	Qty.
18	Nut, 1/2"-20, Hex Lock	10365	1
19	Clevis Assembly (with Roller)	17108A	1
20	Wedge, Antidrift	100-0138	2
21	Upright (Front and Rear)	205-0132	2
22	Bolt, 3/8"-16 x 1", Carriage	10245	2
23	Bolt, 3/8"-16 x 3/4", Carriage	15698	9
24	Nut, 3/8"-16, Hex Lock	13617	18
25	Washer, 1/2", Flat	10065	4
26	Nut, 1/2"-13, Hex Lock	13157	2
27	Roller, Plastic Clevis, 2"	205-0601	2
28	Axle, 5/8" x 2.97" (Long)	10472	1
29	Spacer	19499-1	2
30	Axle, 5/8" x 2.82" (Short)	13902	1
31	Bolt, 3/8"-16 x 3-3/4", Hex	14051	2
32	Cap Tape, 1-1/2" Wide	10416R014	2
33	Bearing, UHMW, Flat, Thin, White	205-1760	6
34	Bearing, UHMW, Spacer	400-1760	2
35	Bearing, UHMW, Guide	205-1761	2
36	Pin, Cottered, 4x4 Leaf Chain	21759	4
37	Pin, Cotter, 1/32" x 1/2" (4x4)	23173	4
38	Spool, UHMW	211-1740	1
39	Chain Plate, Slide Tube	211-5439W	1
40	Axle, Idler	211-0438	2
41	Snap Ring, External, 5/8"	19260	2
42	Master Link, #40 Chain, Cottered, Plated	19430	1
43	Master Link, #40 Chain, Spring	10350	1
44	Shrink Tube, 3/4" *(order 45 inches)*	11456R	45"
45	Idler, Slide Tube	211-0436	1
46	Clamp, Cylinder	800-3003	2
47	Screw, #8-18 x 1", Self-Tap, Hex	10084	4
48	Chain Bolt, 7/16"-14 x 2-1/4" (4x4) - D	21711	2
49	Nut, 7/16"-14, Jamb	14414	2
50	Nut, 7/16"-14, Hex, Nylock	12895	2
51	Plate, Chain Bolt	800-3008	1
52	Striker End *(order **Kit #205-0156A**)*	205-0156	2
53	Pin, Clevis, 1/2" x 27/32"	15706	2
54	Pin, Cotter, 1/8" x 1"	12359	6
55	Tab with Bracket	205-0739	1
56	Whale Weldment, Rear *(order **Kit #211-1230A**)*	211-1230	1
57	Whale Weldment, Front *(order **Kit #211-1235A**)*	211-1235	1
58	Bearing, Whale	205-1770	2
59	Washer, Whale Pin, 14 Gauge	205-1791	2
60	Bolt, 3/8"-16 x 3/8", Hex-Nylock ***(Not Shown)***	17633	4
61	Side Plate, 1/4", Front	211-0350	1
62	Side Plate, 1/4", Rear	211-0360	1
63	Washer, 1-1/2" O.D. x 1" I.D. x .075"	205-1793	2
64	Pin, Cotter, 1/8" x 1-1/2"	10095	2
65	Bumper, Rubber, 5/16" x 5/8" Stud	16114	1
66	Washer, 5/16", Lock	10068	3
67	Nut, 5/16"-18, Hex	10058	3
68	Bearing Assembly *(order **Kit #205-1785A**)*	205-1780	2
69	Pin, Pickup Bearing *(order **Kit #205-1785A**)*	205-1785	2
70	Bolt, 1/2"-13 x 1", Hex	10037	2
71	Nut, 1/2"-13, Flanged, Lock (Washer Head)	15704	4
72	Block, Stop	304-0702	4
73	Bumper, Rubber	10950	3
74	Rivet, Pop, SD64BS	11513	19
75	Rod, Roll Stop Retainer	17627	3
76	Latch	211-0343F	1
77	Washer, .516 I.D. x .0269"	15328	4
78	Gas Spring (with Studs)	800-0740	1
79	Edge Liner, 1/8" U-Molding, Yellow, 25"	24045R025	2
80	Bolt, 3/8"-16 x 3/4", Hex	12463	2
81	Screw, #8-18 x 1/2", Self-Tap, Phillips	13583	1
82	Cover, Pump	17118	1
83	Cover, Panel, Access	17153	1
84	Actuator	25535	1
85	Axle, 15/32" x 2" *(order **Kit #15755A**)*	14204	1
86	Ring, Clevis Pin *(order **Kit #15755A**)*	11390	1
87	Cotter, Hairpin (Top) *(order **Kit #15755A**)*	77001	1
88	Cotter, Hairpin, 1.938" (Bottom)	18832	1
89	Clamp, Backup Pump Handle	12350	2
90	Handle with Grip, Backup Pump	17206A	1
91	Bracket, Quiet Ride, Series 04	19457	1
92	Spring, 1/4" x 1, Extension with Hooks	10774	1
93	Actuator Rotation Bracket Weldment	21798A	1
94	Link, Over Center, Actuator Release	20340	2
95	Handle, Actuator Release	20341	1
96	Pin, Detent, 1/4" x .7" Grip	20630	1
97	Spacer, 3/8" I.D. x 5/8" O.D. x .283"	20707	2
98	Spacer, 3/8" I.D. x 5/8" O.D. x .219"	20708	1
99	Bolt, 3/8"-16 x 2", Hex	10027	1
100	Bolt, 3/8"-16 x 1", Hex	10025	2
101	Cap, Vinyl, 5/8" x 3/16" x 1-1/4"	18238	1
102	Holder, Operators Manual	25715	1
103	Rivet, Pop, AD66BSLF, 3/16"-.25/.38	13186	1
104	Spacer, UHMW, Latch	950-7760	2
105	Grommet, ID.75/GR.19/GD-1.0/T.56	11077	1

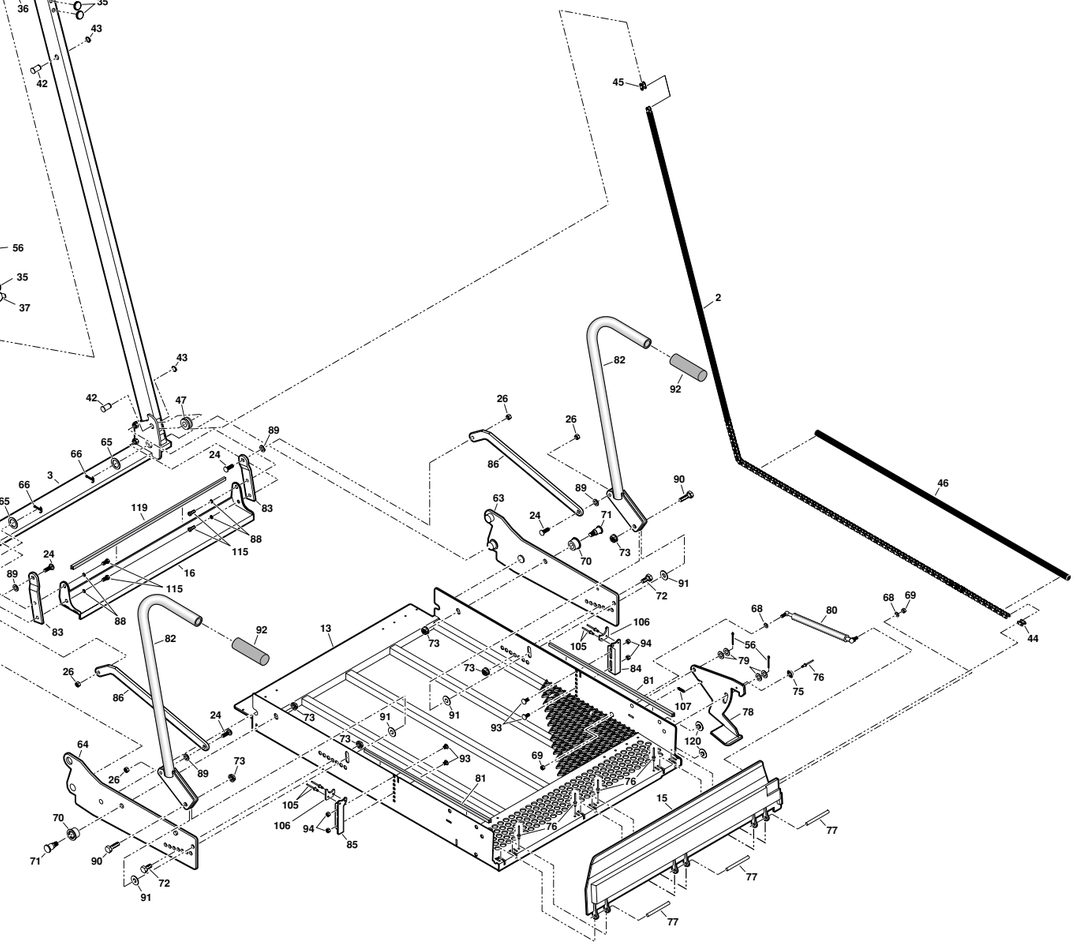
L205 Series Exploded View


See Detail A
See pages 52 and 53 for a complete Hydraulics Diagram/Schematic and Parts List.
See pages 54-57 for a complete Pump Module Diagram and Parts List. Pump module mounting bolts (item 60) are not shown.

L211 Series Exploded View


See Detail A
See pages 52 and 53 for a complete Hydraulics Diagram/Schematic and Parts List.
See pages 54-57 for a complete Pump Module Diagram and Parts List. Pump module mounting bolts (item 62) are not shown.





L211 Series Repair Parts

Unfold the previous page for the applicable lift (**Exploded View**) pages 59B and 60B

Part Number of Items Dedicated per Lift Model

Item	Description	L211U58ARS	L211U64ARS	L211U70ARS	L211U325170	Qty.
1	Horseshoe Weldment	211-6233-58	211-6233-64	211-6233-70	211-6235-70	1
2	Chain with Shrink Tube (#40)	211-5850	211-6450	211-7050	211-7053	1
3	Slide Tube Weldment	211-5433-58	211-5433-64	211-5433-70	211-5435-70	1
4	Cylinder	C1524-2404	C1528-2404	C1531-2404	C1531-2404	1
5	Module *(see Pump Module for breakdown)*	205-6500-12C	205-6500-12C	208-6500-12C	208-0500-12C	1
6	Cover, Chain Bolt	Not Used	205-0737	205-0737	205-0737	1
7	Side Guard	258-4735	264-4735	270-4735	270-4735	1
8	Cap Tape, 1-1/2" Wide *(length per Model)*	10416R027.5	10416R029	10416R028	10416R028	1
9	Screw, #8-18 x 3/8", Self-Tap, (Pan Head)	10075 *(Qty: 18)*	10075 *(Qty: 20)*	10075 *(Qty: 20)*	10075 *(Qty: 20)*	*per Model*
10	Base Plate Weldment	211-0130-33	211-0130-33	211-0130-33	211-0130-35	1
11	Striker Back Weldment **only**	233-4140	233-4140	233-4140	235-0140	1
	Striker Back **Kit**	233-0140A	233-0140A	233-0140A	235-0140A	1
12	Tie Bar Weldment	233-0730	233-0730	233-0730	235-0730	1
13	Platform Weldment (less Roll Stops)	211-3350W	211-3350W	211-3350W	211-3553W	1
14	Striker Flap	233-4742	233-4742	233-4742	235-4742	1
15	Roll Stop Weldment	211-0345-33	211-0345-33	211-0345-33	211-0345-35	1
16	Inboard Roll Stop Weldment	211-0805	211-0805	211-0805	211-0805-35	1
17	Cover, Header	233-0736	233-0736	233-0736	235-0736	1
18	Weatherstrip, Self-Adhesive *(length per Model)*	12461R030	12461R030	12461R030	12461R032	1
19	Actuator	25535	25535	25535	20329	1

Part Numbers of Items Identical on All Models

Item	Description	Part No.	Qty.
20	Nut, 1/2"-20, Hex Lock	10365	1
21	Clevis Assembly (with Roller)	17108A	1
22	Wedge, Antidrift	100-0138	2
23	Upright (Front and Rear)	205-0132	2
24	Bolt, 3/8"-16 x 1", Carriage	10245	6
25	Bolt, 3/8"-16 x 3/4", Carriage	15698	9
26	Nut, 3/8"-16, Hex Lock	13617	22
27	Washer, 1/2", Flat	10065	4
28	Nut, 1/2"-13, Hex Lock	13157	2
29	Roller, Plastic Clevis, 2"	205-0601	2
30	Axle, 5/8" x 2.97" (Long)	10472	1
31	Spacer	19499-1	2
32	Axle, 5/8" x 2.82" (Short)	13902	1
33	Bolt, 3/8"-16 x 3-3/4", Hex	14051	2
34	Cap Tape, 1-1/2" Wide	10416R014	2
35	Bearing, UHMW, Flat, Thin, White	205-1760	6
36	Bearing, UHMW, Spacer	400-1760	2
37	Bearing, UHMW, Guide	205-1761	2
38	Pin, Cottered, 4x4 Leaf Chain	21759	4
39	Pin, Cotter, 1/32" x 1/2" (4x4)	23173	4
40	Spool, UHMW	211-1740	1
41	Chain Plate, Slide Tube	211-5439W	1
42	Axle, Idler	211-0438	2
43	Snap Ring, External, 5/8"	19260	2
44	Master Link, #40 Chain, Cottered, Plated	19430	1
45	Master Link, #40 Chain, Spring	10350	1
46	Shrink Tube, 3/4" *(order 45 inches)*	11456R	45"
47	Idler, Slide Tube	211-0436	1
48	Clamp, Cylinder	800-3003	2
49	Screw, #8-18 x 1", Self-Tap, Hex	10084	4
50	Chain Bolt, 7/16"-14 x 2-1/4" (4x4) - D	21711	2
51	Nut, 7/16"-14, Jamb	14414	2
52	Nut, 7/16"-14, Hex, Nylock	12895	2
53	Plate, Chain Bolt	800-3008	1
54	Striker End *(order **Kit #205-0156A**)*	205-0156	2
55	Pin, Clevis, 1/2" x 27/32"	15706	2
56	Pin, Cotter, 1/8" x 1"	12359	6
57	Tab with Bracket	205-0739	1
58	Whale Weldment, Rear *(order **Kit #211-1230A**)*	211-1230	1
59	Whale Weldment, Front *(order **Kit #211-1235A**)*	211-1235	1
60	Bearing, Whale	205-1770	2
61	Washer, Whale Pin, 14 Gauge	205-1791	2
62	Bolt, 3/8"-16 x 3/8", Hex-Nylock ***(Not Shown)***	17633	4
63	Side Plate, 1/4", Front	211-0350	1
64	Side Plate, 1/4", Rear	211-0360	1
65	Washer, 1-1/2" O.D. x 1" I.D. x .075"	205-1793	2
66	Pin, Cotter, 1/8" x 1-1/2"	10095	2
67	Bumper, Rubber, 5/16" x 5/8" Stud	16114	1
68	Washer, 5/16", Lock	10068	3
69	Nut, 5/16"-18, Hex	10058	3
70	Bearing Assembly *(order **Kit #205-1785A**)*	205-1780	2
71	Pin, Pickup Bearing *(order **Kit #205-1785A**)*	205-1785	2
72	Bolt, 1/2"-13 x 1", Hex	10037	2
73	Nut, 1/2"-13, Flanged, Lock (Washer Head)	15704	6
74	Block, Stop	304-0702	4
75	Bumper, Rubber	10950	3
76	Rivet, Pop, SD64BS	11513	19
77	Rod, Roll Stop Retainer	17627	3
78	Latch	211-0343F	1
79	Washer, .516 I.D. x .0269"	15328	4
80	Gas Spring (with Studs)	800-0740	1
81	Edge Liner, 1/8" U-Molding, Yellow, 25"	24045R025	2
82	Handrail	211-1440	2
83	Arm, Offset	19264	2
84	Stop, Handrail, Front	19254	1
85	Stop, Handrail, Rear	19254RR	1
86	Pusher Link, Handrail	19253	2
87	Bolt, 3/8"-16 x 3/4", Hex	12463	2
88	Washer, 3/8", Lock	10069	4
89	Washer, 3/8", Flat	10064	4
90	Bolt, 1/2"-13 x 1-1/2", Hex	10038	2
91	Washer, 1-1/4" O.D. x 1/2" I.D. x 16 Ga.	205-0711	4
92	Grip, Handle, Yellow, 1-1/4"	19074	2
93	Bolt, 5/16"-18 x 1/2", Carriage	15251	4
94	Nut, 5/16"-18, Hex Lock	11387	4
95	Screw, #8-18 x 1/2", Self-Tap, Phillips	13583	1
96	Cover, Pump	17118	1
97	Cover, Panel, Access	17153	1
98	Axle, 15/32" x 2" *(order **Kit #15755A**)*	14204	1
99	Ring, Clevis Pin *(order **Kit #15755A**)*	11390	1
100	Cotter, Hairpin (Top) *(order **Kit #15755A**)*	77001	1
101	Cotter, Hairpin, 1.938" (Bottom)	18832	1
102	Clamp, Backup Pump Handle	12350	2
103	Handle with Grip, Backup Pump	17206A	1
104	Bracket, Quiet Ride, Series 04	19457	1
105	Rivet, Pop, SD66BS	14993	4
106	Guide, UHMW, Stop Handrail	19451	2
107	Spring, 1/4" x 1, Extension with Hooks	10774	1
108	Actuator Rotation Bracket Weldment	21798A	1
109	Link, Over Center, Actuator Release	20340	2
110	Handle, Actuator Release	20341	1
111	Pin, Detent, 1/4" x .7" Grip	20630	1
112	Spacer, 3/8" I.D. x 5/8" O.D. x .283"	20707	2
113	Spacer, 3/8" I.D. x 5/8" O.D. x .219"	20708	1
114	Bolt, 3/8"-16 x 2", Hex	10027	1
115	Bolt, 3/8"-16 x 1", Hex	10025	6
116	Cap, Vinyl, 5/8" x 3/16" x 1-1/4"	18238	1
117	Holder, Operators Manual	25715	1
118	Rivet, Pop, AD66BSLF, 3/16"-.25/.38	13186	1
119	Edge Liner, 1/8" U-Molding, Yellow, 30"	24045R030	1
120	Spacer, UHMW, Latch	950-7760	2
121	Grommet, ID.75/GR.19/GD-1.0/T.56	11077	1

Decals and Antiskid

⚠WARNING

Replace missing, worn or illegible decals. Failure to do so may result in serious bodily injury and/or property damage.

Decals

The lift is only as safe as the operator. Lift-posted decals are shown by mounting location. Part numbers are provided for all decals. Inspect your lift for any missing, worn or illegible decals. Call 1-800-THE LIFT for replacements.

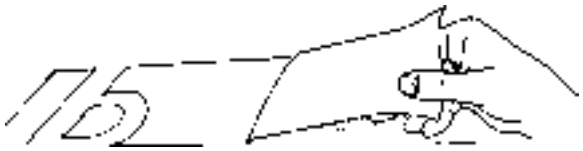
An additional Warnings and Lift Operating Instructions decal and an additional ADA Standee and Interlock decal (L211 Series only) are provided in the installation parts package to be posted near the lift control box mounting location as shown below.

Decal and Antiskid Application Procedure

Clean powder-coated surfaces (or painted surfaces) with isopropyl alcohol **before** decal or antiskid application. Use a clean cloth or paper towels. **DO NOT** use oily shop rags. Wipe surface free of residue with dry portion of cleaning cloth.

Mask Removal: Pay close attention to this mask removal procedure when posting die-cut logo decals.

To remove the masking, start an edge and peel back **slowly**, at a sharp angle directly over the top of the decal.

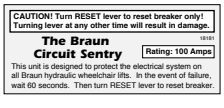


Non Lift-Posted Decals

Parking Courtesy Requested Decal #12375

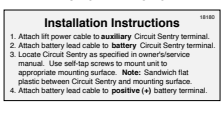
Actual Size: 3" W. x 4-3/4" T.

Two Courtesy Requested decals are supplied with all Braun lifts to be posted on vehicle as desired.


CAUTION! Turn RESET lever to reset breaker only! Turning lever at any other time will result in damage.
The Braun Circuit Sentry
Rating: 100 Amps
This unit is designed to protect the electrical system on all Braun hydraulic wheelchair lifts. In the event of failure, wait 60 seconds. Then turn RESET lever to reset breaker.

Circuit Sentry (100 A.) Label Decal #18181

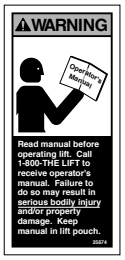
Actual Size: 2-3/16" W. x 15/16" T.


Installation Instructions
1. Attach lift power cable to auxiliary Circuit Sentry terminal.
2. Attach battery lead cable to battery Circuit Sentry terminal.
3. Locate Circuit Sentry as specified in owner's/service manual. Use self-tap screws to mount unit to appropriate mounting surface. Note: Sandwich flat plastic between Circuit Sentry and mounting surface.
4. Attach battery lead cable to positive (+) battery terminal.

Installation Instructions Decal #18180

Posted on 100 ampere 12 volt Circuit Sentry #18189A.

Note: Decals #18182 and #18180 posted on 24 volt Circuit Sentry #18190A.


⚠WARNING
Read manual before operating lift. Call 1-800-THE LIFT to receive operator's manual. Failure to do so may result in serious bodily injury and/or property damage. Keep manual in lift pouch.

Operator's Manual Policy Warning Decal 25674

Actual Size: 1-1/2" W. x 3-1/4" T.

⚠WARNING
Read manual before operating lift. Call 1-800-THE LIFT to receive operator's manual. Failure to do so may result in serious bodily injury and/or property damage. Keep manual in lift pouch.

Posted on the lift control box as shown.

Warnings and Lift Operating Instructions Decal
Series **05**: 25857
Series **06**: 25858

L211 Series Only
ADA Standee and Interlock Decal 19342

Supplied to be posted near the lift control box mounting location (lift posted also - see oppositie page).

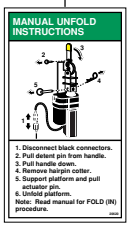
Decals and Antiskid

Lift-Posted Decals

Warning, Manual Unfold - L200 Decal #25948

Actual Size:
3-5/16" Wide x 1-3/4" Tall

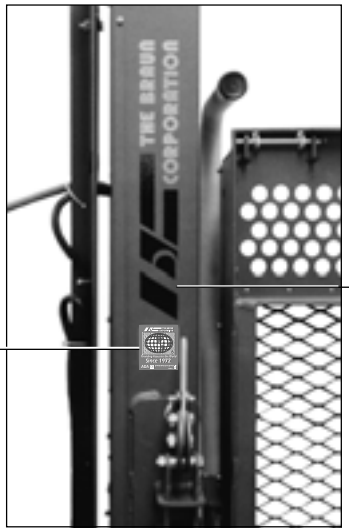
Manual Unfold Instructions (Over Center Actuator) Decal #20620


MANUAL UNFOLD INSTRUCTIONS
1. Disconnect black connectors.
2. Pull detent pin from handle.
3. Pull handle down.
4. Remove hairpin cotter.
5. Support platform and pull actuator pin.
6. Unfold platform.
Note: Read manual for FOLD (IN) procedure.

Actual Size:
2" Wide x 3-1/2" Tall

Braun "Providing Access to the World" Decal #25652

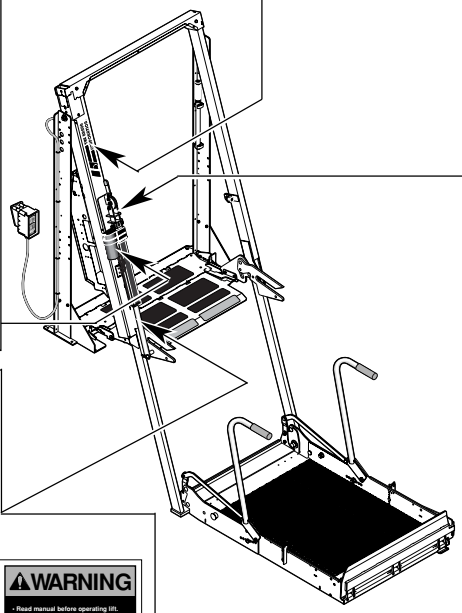
Actual Size:
1-3/4" Wide x 2" Tall



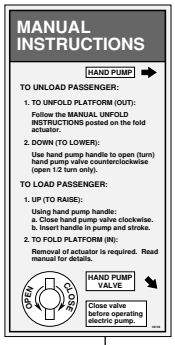
Braun Die Cut Logo Decal #17866

Actual Size:
1-3/4" Wide
x
13-3/4" Tall

Note: Pay close attention to the application procedure (mask removal) outlined on page 62 when posting this die-cut decal.



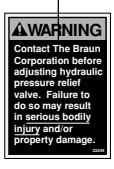
Manual Instructions Decal #18118


MANUAL INSTRUCTIONS
HAND PUMP
TO UNLOAD PASSENGER:
1. TO UNFOLD PLATFORM (OUT):
Follow the MANUAL UNFOLD INSTRUCTIONS posted on the fold actuator.
2. DOWN (TO LOWER):
Use hand pump handle to open (turn) hand pump valve counterclockwise (open 1/2 turn only).
TO LOAD PASSENGER:
1. UP (TO RAISE):
Using hand pump handle:
a. Close hand pump valve clockwise.
b. Insert handle in pump and stroke.
2. TO FOLD PLATFORM (IN):
Removal of actuator is required. Read manual for details.
OPEN
CLOSE
HAND PUMP VALVE
Close valve before operating electric pump.

Actual Size:
3" Wide x 6-1/16" Tall

MANUAL INSTRUCTIONS
HAND PUMP
TO UNLOAD PASSENGER:
1. TO UNFOLD PLATFORM (OUT):
Follow the MANUAL UNFOLD INSTRUCTIONS posted on the fold actuator.
2. DOWN (TO LOWER):
Use hand pump handle to open (turn) hand pump valve counterclockwise (open 1/2 turn only).
TO LOAD PASSENGER:
1. UP (TO RAISE):
Using hand pump handle:
a. Close hand pump valve clockwise.
b. Insert handle in pump and stroke.
2. TO FOLD PLATFORM (IN):
Removal of actuator is required. Read manual for details.
OPEN
CLOSE
HAND PUMP VALVE
Close valve before operating electric pump.
WARNING
Contact The Braun Corporation before adjusting hydraulic pressure relief valve. Failure to do so may result in serious bodily injury and/or property damage.

Warning, Hydraulic Pressure Relief Adjustment (M259) Decal #22249


WARNING
Contact The Braun Corporation before adjusting hydraulic pressure relief valve. Failure to do so may result in serious bodily injury and/or property damage.

Actual Size:
1-5/8" Wide x 2-1/4" Tall

L211 Series Only
ADA Standee and Interlock Decal 19342

OPERATING INSTRUCTIONS
Read warnings and operate lift as outlined on LIFT OPERATING INSTRUCTIONS decal. Lift operating instructions apply to wheelchair passengers and standees.
Standee Instructions: Standees must stand at center of platform (fully inside yellow boundaries), grip handrails and lower head to clear door jamb header.
Interlock Instructions: Lift interlocks vary in type and operation. Interlock (if equipped) must be operated as instructed by transit authority.

Actual Size:
2-1/2" Wide x 3-1/8" Tall

WARNING
• Read manual before operating lift.
• Load and unload on level surface only.
• Engage vehicle parking brake before operating lift.
• Provide adequate clearance outside of vehicle to accommodate lift.
• Do not operate lift if you suspect lift damage, wear or any abnormal condition.
• Keep operator and bystanders clear of area in which lift operates.
Whenever a wheelchair passenger is on the platform, the:
- Passenger must be positioned fully inside yellow boundaries
- Wheelchair brakes must be locked
- Roll stop(s) must be up
Failure to follow these rules may result in serious bodily injury and or property damage.
LIFT OPERATING INSTRUCTIONS
OPEN DOOR(S) AND SECURE
TO UNFOLD PLATFORM:
Stand clear and press ◀UNFOLD switch until platform stops.
TO UNLOAD PASSENGER:
1. Press ◀DOWN switch until platform reaches floor level. Release switch.
2. Load passenger onto platform and lock wheelchair brakes.
3. Press ◀DOWN switch until entire platform reaches ground level and roll stop unfolds fully.
4. Unlock wheelchair brakes and unload passenger from platform.
TO LOAD PASSENGER:
1. Load passenger onto platform and lock wheelchair brakes.
2. Press ▶UP switch to fold roll stop up and raise platform to floor level. Release switch.
3. Unlock wheelchair brakes and unload passenger from platform.
TO FOLD PLATFORM:
1. Press ▶UP switch until platform stops.
2. Press ▶FOLD switch until platform stops.
CLOSE DOOR(S)

Warnings and Lift Operating Instructions Decal

Series **05**: 25857
Series **06**: 25858

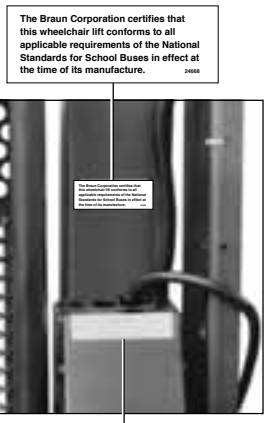
Actual Size:
2-1/2" Wide x 9-5/8" Tall

Decals and Antiskid

Lift-Posted Decals

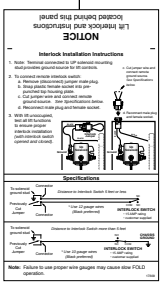
National Standards for School Buses Lift Certification Decal #24668

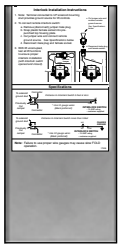
Actual Size:
2-3/4" Wide x 1" Tall


The Braun Corporation certifies that this wheelchair lift conforms to all applicable requirements of the National Standards for School Buses in effect at the time of its manufacture.
24668

Interlock Installation Instructions (M259) Decal #17309

Actual Size:
4" Wide x 7" Tall





Pump Cover (Interior)

Pump Cover (Exterior)

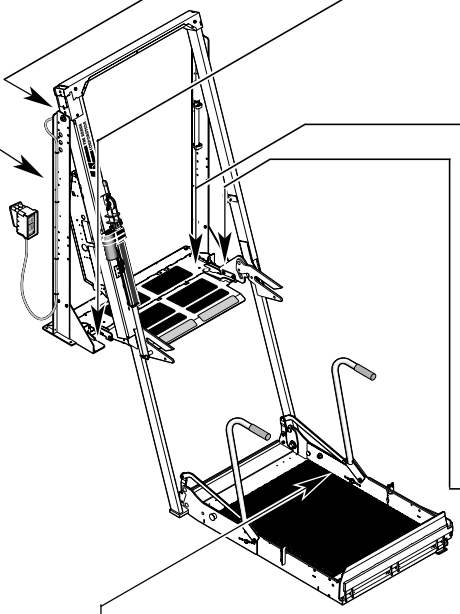
MADE IN AMERICA
Quality Inspected
By: ☑

Made-in-America and Inspected By Decal #18229

Actual Size:
1-11/16" W. x 1-3/16" T.

MADE IN AMERICA

Note: Made In America (**only**) Decal 15641 is available.



Posted on "rear" gusset

⚠WARNING
Do not use this hole for lift securement. Failure to follow this instruction may result in serious bodily injury and/or property damage.
16735

Warning, Gusset Mounting Hole Decal #16735

Actual Size:
2-15/16" Wide x 15/16" Tall

⚠WARNING
Lift installation and servicing prohibited by anyone who has not been certified by The Braun Corporation Sales and Service School. Certified service technicians should call 1-800-THE LIFT to receive applicable installation/service manual. Failure to follow this policy may result in serious bodily injury and/or property damage.
25675

⚠WARNING
Lift installation and servicing prohibited by anyone who has not been certified by The Braun Corporation Sales and Service School. Certified service technicians should call 1-800-THE LIFT to receive applicable installation/service manual. Failure to follow this policy may result in serious bodily injury and/or property damage.
25675

Warning, Installation and Service Manual Policy Decal #25675

Actual Size:
3-15/16" W. x 2" T.

Posted on "front" gusset

⚠WARNING
Do not use this hole for lift securement. Failure to follow this instruction may result in serious bodily injury and/or property damage.
16735

Warning, Gusset Mounting Hole Decal #16735

Actual Size:
2-15/16" Wide x 15/16" Tall

Posted on the "rear" face of the "front" platform side plate.
**** Typical both sides***

⚠WARNING
Discard flanged platform lock nuts if loosened or removed. Do not reuse! Replace with nuts provided in lift installation parts package. Failure to do so may result in serious bodily injury and/or property damage. See owner's manual for instructions.
15707

Platform Angle Adjustment and Lock Nut Warning Decal #15707 (Qty: 4)

Actual Size:
2-1/4" Wide x 1-1/2" Tall

Decals and Antiskid

Antiskid

⚠WARNING

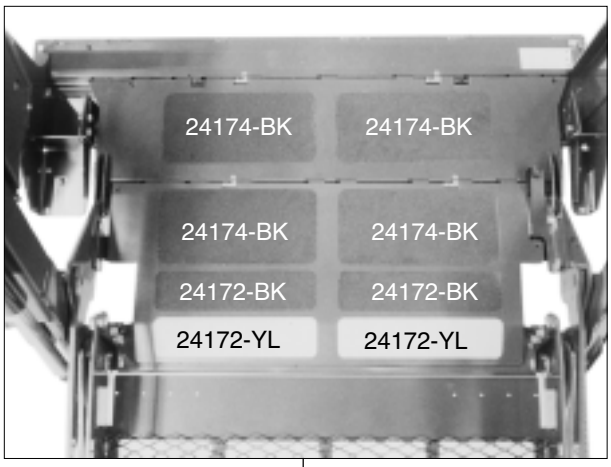
Replace missing, worn or illegible decals. Failure to do so may result in serious bodily injury and/or property damage.

Note: Clean surfaces as detailed on page 62 **before** antiskid application.

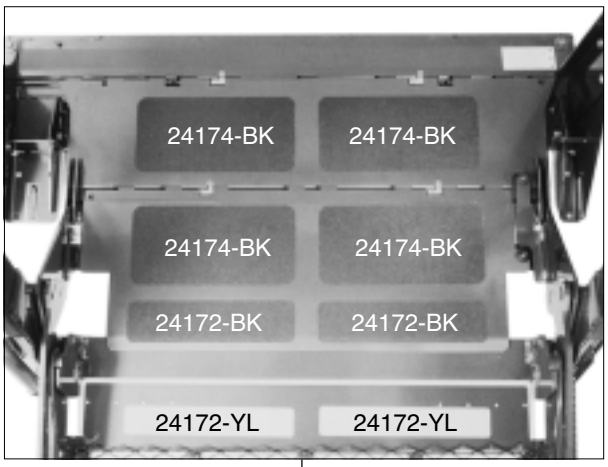
Inspect your lift for any missing or worn antiskid. Call 1-800-THE LIFT for replacements. Use of particular size and quantity of antiskid is dependent on lift model. Order as needed.

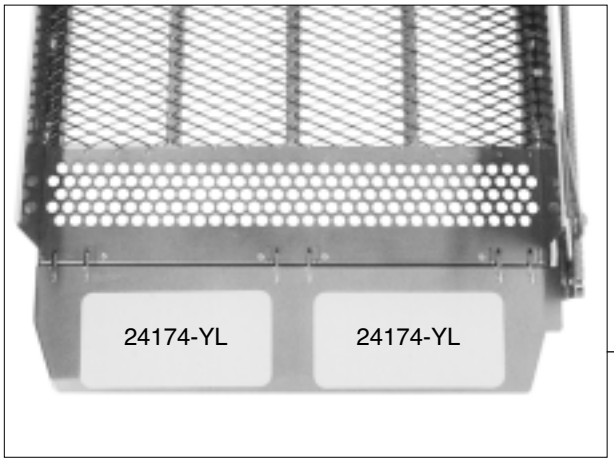
Antiskid		
Size	**Color**	**Part No.**
2" x 12"	Black	#24172-BK
2" x 12"	Yellow	#24172-YL
3" x 12"	Black	#24173-BK
3" x 12"	Yellow	#24173-YL
6" x 12"	Black	#24174-BK
6" x 12"	Yellow	#24174-YL

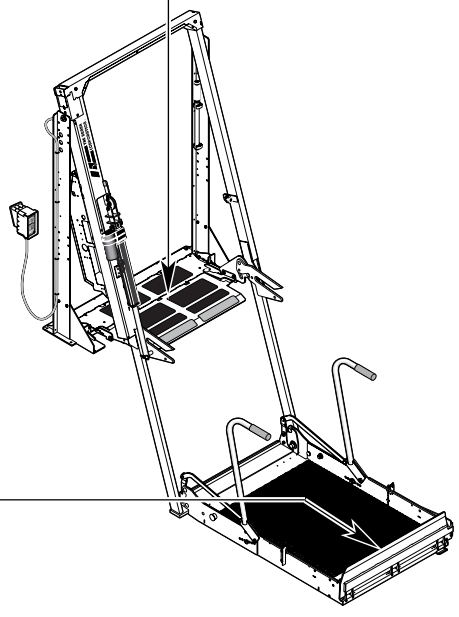
L211 Series Lifts



L205 Series Lifts







Lift Specifications

The following specifications are basic to the electrical/hydraulics operations. Further technical specifications and details of components are provided in the **Systems Descriptions** and **Troubleshooting** sections.

Lift Model	L211U58ARS	L211U64ARS	L211U67ARS	L211U68ARS	L211U70ARS	L211U325170
Lift Weight	434 lbs	445 lbs	448 lbs	451 lbs	452 lbs	464 lbs
Lift Model	L205UARS	L205U64ARS	L206UARS	L207U67ARS	L208UARS	L208U64ARS
Lift Weight	394 lbs	405 lbs	408 lbs	418 lbs	427 lbs	420 lbs

- ❑ **The Lift Series Code:** See the lift posted Serial No./Series No. Identification tag.
- ❑ **Hydraulic Pump:** M259 factory-equipped with a manual Backup Pump (hand pump).
- ❑ **Hydraulic Fluid:** Dextron III automatic transmission fluid. Further hydraulic fluid specifications are provided in the Systems Descriptions section.
- ❑ **Hydraulic Pump Pressure Relief Valve Setting:** M259 is factory set at 2450 psi. **Note:** See Systems Descriptions for adjustment procedures.
- ❑ **Design Lifting Capacity:** 800 lbs.
- ❑ **Pump Identification Codes:** Specified below at time of puplication. See lift-posted Serial No./Series No. Identification tag if in doubt.

Pump Identification Codes

Lift Series	Voltage	Pump Code
05	12	12
05	24	14
06	12	26
06	24	27

- ❑ **Power Source:** 12 volt DC battery with negative Ground **(Standard** Lift Models). **Note:** Special applications powered by 24 volt system.

Operations Cycle Times

The performance data contained within the Operations Cycle Time Chart provides the customer with general performance criteria. This information is compiled from tests conducted on **standard** L200UARS Series lift models meeting the following **constant** operational specifications.

Operational Specifications:

1. Environmental temperature of 72° F. Extremely low temperatures can moderately affect cycle times.
2. A 400 lb. platform load used in all Raise and Lower operations.
3. Fully charged 12 volt DC power source. Low voltage will moderately affect test results.
4. The Length of Travel dimension reflects the maximum floor-to-ground dimension of certain lift models (see dimension “M” in the Lift Dimensions sections). **Note:** The Length of Travel dimension will vary per lift model and vehicle floor height. All figures must be calculated per your particular floor-to-ground dimension when comparing.

OPERATIONS CYCLE TIME CHART

Operation	Length of Travel	Duration Min. to Max.	Average Length of Travel per Duration
Unfold	Full Stroke Cycle	7 sec. to 10 sec.	Full Stroke Cycle
Fold	Full Stroke Cycle	11 sec. to 14 sec.	Full Stroke Cycle
Lower	46"	11.025 sec. to 14.175 sec.	3.65" per sec.
Raise	46"	11.00 sec. to 15.717 sec.	3.44" per sec.

Manual Backup Pump (hand pump)

Operation	Length of Travel	Number of Strokes	Length of Travel per Stroke
Raise	46"	67.60 to 73.90	.65" per Stroke
Operation	**Length of Travel**	**Average Duration**	**Average Length of Travel per Duration**
Lower	46"	12.6 sec.	3.65" per sec.

Important: *All figures are approximations based on the above* ***constant*** *operational specifications. When comparing cycle times,* ***be certain*** *all operational specifications have been met and you have checked the Troubleshooting Chart before reporting a service problem. Thank You.*

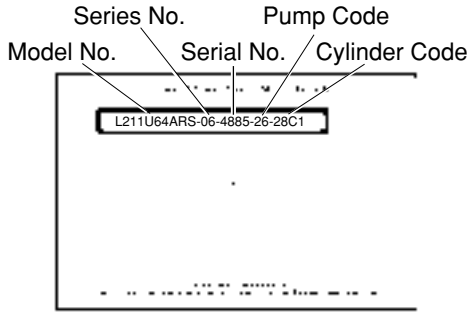
Warranty and Registration Policy

Immediately upon receiving your lift, examine the unit for any damage. Notify the carrier at once with any claims.

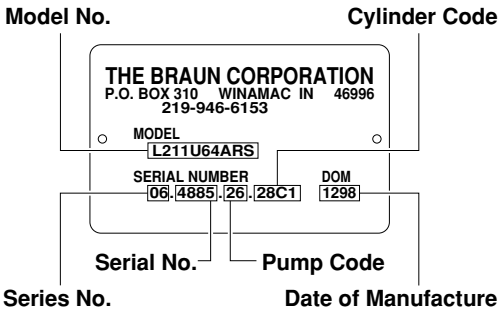
Two warranty/registration cards (shown below) are located in the lift-mounted owner's manual storage pouch. The sales representative must process one of the cards. The consumer must fill out the other card and mail it to The Braun Corporation. The warranty is provided on the back cover of this manual. The **warranty cards must be processed to activate the warranty**.

The Braun Serial No./Series No. identification tag (shown below) is located on the opposite pump side upright. This I.D. tag contains the product identification information provided on the Warranty/Registration card. Record the information in the space provided below (or document on a copy).

This information must be provided when filing a warranty claim or ordering parts.



Sample Warranty/Registration Card



Sample Serial No./Series No. Identification Tag

Model No. _____ Pump Code _____

Series No. _____ Cylinder Code _____

Serial No. _____ Date of Manufacture _____

Note: Retain this information for future use. You must have this information when filing a warranty claim or ordering

Return Authorization Procedure

When processing any warranty claims (parts, repairs, etc.), all requests must be processed through The Braun Corporation Product Support Department. Call 1-800-THE LIFT (extension 3009) during normal working hours. Product Support will issue a Return Material Authorization (RMA) number and detail the procedures required for processing returns and/or authorizing credit.

The lift identification information is provided on the Braun Serial No./Series No. identification tag and the two warranty cards (shown above). Record the identification information in the space provided on the inside front cover of this manual for future reference. Document the identification information in the space provided in the section above also. This information must be provided when filing a warranty claim or ordering parts.

L205 Series Lift Dimensions

The chart below provides dimensions of standard production models of Braun **L205**UARS Series lifts. Refer to the illustrations on page 69 and the chart below to determine the appropriate dimensions. Special-order lifts are available to meet user needs, but specific dimensions cannot be listed due to the many possibilities. **If in doubt, consult the factory.**

Minimum Clear Door Opening Dimensions are defined as finished door opening, including any intrusive door jambs, headers, sills or hinges. Any intrusive obstructions within the Clear Door Opening **must** be removed. See the Pre-Installation Notes for details. **Braun Bus Door Kits:** Braun Retrofit Bus Door Kits are available to provide the required clear opening dimensions.

Dimension	Description	Dimension	Description
A *	**Overall Lift Height:** Floor to top of lift header when in stowed position	I *	**Minimum Clear Door Opening Width:** Rear edge of cylinder channel cover to front edge of front horseshoe tube bearing plate **plus** 3/4")
B *	**Minimum Vehicle Ceiling Height:** Header rotation clearance (Overall Lift Height at maximum header rotation height)	J	**Clear (Usable) Passageway Width:** Front edge of pump module to Quiet-Ride Bumper
C *	**Minimum Clear Door Opening Height to Accommodate Lift:** Floor to door header (actual dimension required to unfold and fold platform)	K	**Usable Platform Width:**
D *†	**Minimum Clear Door Opening Height to Meet ADA Vertical Passageway Requirement:** Floor to door header (**additional 1-1/2" required** due to thickness [height] of lift bridge plate).	L	**Usable Platform Length:** Outboard edge of bridge plate flap to outboard roll stop with platform at floor level
E	**Nominal Head Clearance:** Floor to lift header with lift in deployed position	M	**Maximum Floor to Ground**
F	**Clear (Usable) Vertical Passage:** Top of bridge plate to lift header with platform at floor level	N	**Fold Out Angle**
G	**Maximum Clear Door Opening Height:** Floor to door header (actual dimension required to allow Clear Vertical Passage - Dimension F) - Additional Door Opening Height is **not required**	O ✓	**Depth:** Inboard edge of lift upright to outermost point of lift in stowed position
H	**Overall Lift Width:** Outermost edge of front upright to outermost edge of rear upright	P	**Maximum Projected Distance:** Interior vehicle wall to outboard end of platform with platform at maximum lowered position

Dimension	Dimensions per Lift Model					
	L205UARS	L205U64ARS	L206UARS	L207U67ARS	L208U64ARS	L208UARS
A *	59-15/16"	65-7/8"	68-7/8"	68-7/8"	65-7/8"	71-7/8"
B *	60-1/2"	66-1/2"	69-1/2"	69-1/2"	66-1/2"	72-1/2"
C *	53"	53"	53"	53"	53"	53"
D * †	57-1/2"	57-1/2"	57-1/2"	57-1/2"	57-1/2"	57-1/2"
E	58"	64"	67"	67"	64"	70"
F	56-7/8"	62-9/16"	65-3/8"	65-3/8"	62-9/16"	68-1/4"
G	58"	64"	67"	67"	64"	70"
H	41-1/2"	41-1/2"	41-1/2"	43-1/2"	44-1/2"	44-1/2"
I *	39"	39"	39"	41"	42"	42"
J	30-1/8"	30-1/8"	30-1/8"	32-1/8"	33-1/8"	33-1/8"
K	28-1/4"	28-1/4"	28-1/4"	30-1/4"	31-1/4"	31-1/4"
L	50"	50"	50"	50"	50"	50"
M	37"	46"	50"	50"	46"	52"
N	19°	19°	19°	19°	19°	19°
O ✓	14"	14"	14"	14"	14"	14"
P	79"	81-5/8"	82-15/16"	82-15/16"	81-5/8"	83-9/16"

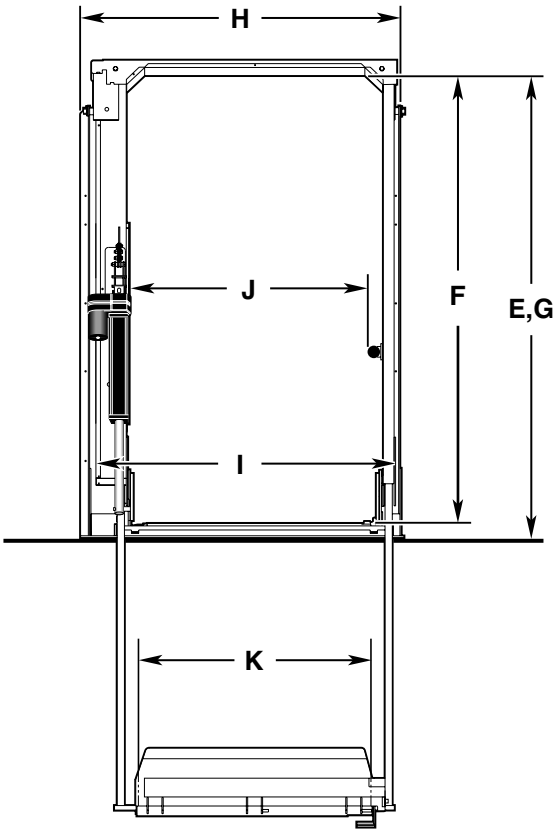
* Indicates dimensions specifying vehicle requirements.

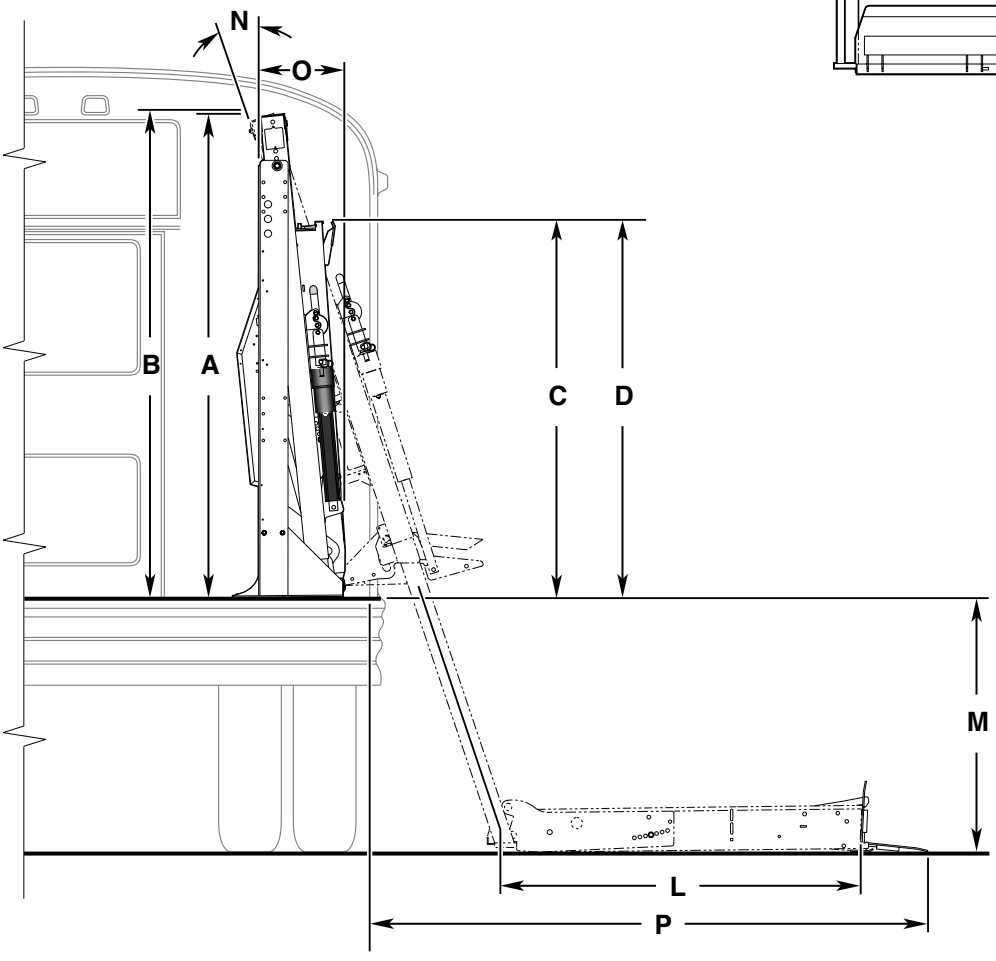
† **ADA Vertical Passageway Requirements:** ADA Specifications: 56" for vehicles under 22 feet long / 68" for vehicles over 22 feet long. **Note: An additional 1-1/2" must be added** to Dimension C due to thickness (height) of lift bridge plate **to meet this requirement**.

✓ Depth can be reduced to 12" if the Minimum Clear Door Opening Width is increased to 43" and the actuator motor is rotated 90° to the "Rear facing" direction. See pages 32 and 33 for **Actuator "Quick-Rotation" Instructions**.

L205 Series Lift Dimensions

Important: Minimum Clear Door Opening Dimensions are defined as finished door opening, including any intrusive door jambs, headers, sills or hinges. Any intrusive obstructions within the Clear Door Opening **must** be removed. See the Pre-Installation Notes for details.





L211 Series Lift Dimensions

The chart below provides dimensions of standard production models of Braun **L211**UARS Series lifts. Refer to the illustrations on page 69 and the chart below to determine the appropriate dimensions. Special-order lifts are available to meet user needs, but specific dimensions cannot be listed due to the many possibilities. **If in doubt, consult the factory.**

Minimum Clear Door Opening Dimensions are defined as finished door opening, including any intrusive door jambs, headers, sills or hinges. Any intrusive obstructions within the Clear Door Opening **must** be removed. See the Pre-Installation Notes for details. **Braun Bus Door Kits:** Braun Retrofit Bus Door Kits are available to provide the required clear opening dimensions.

Dimension	Description	Dimension	Description
A *	**Overall Lift Height:** Floor to top of lift header when in stowed position	I *	**Minimum Clear Door Opening Width:** Rear edge of cylinder channel cover to front edge of front horseshoe tube bearing plate **plus** 3/4")
B *	**Minimum Vehicle Ceiling Height:** Header rotation clearance (Overall Lift Height at maximum header rotation height)	J	**Clear (Usable) Passageway Width:** Front edge of pump module to Quiet-Ride Bumper
C *✗	**Minimum Clear Door Opening Height to Accommodate Lift:** Floor to door header (actual dimension required to unfold and fold platform and **ADA** handrails)	K	**Usable Platform Width:** Platform side of handrail to platform side of handrail
D *†	**Minimum Clear Door Opening Height to Meet ADA Vertical Passageway Requirement:** Floor to door header (**additional 1-1/2" required** due to thickness [height] of lift bridge plate).	L	**Usable Platform Length:** Outboard edge of bridge plate flap to outboard roll stop with platform at floor level
E	**Nominal Head Clearance:** Floor to lift header with lift in deployed position	M	**Maximum Floor to Ground**
F	**Clear (Usable) Vertical Passage:** Top of bridge plate to lift header with platform at floor level	N	**Fold Out Angle**
G	**Maximum Clear Door Opening Height:** Floor to door header (actual dimension required to allow Clear Vertical Passage - Dimension F) - Additional Door Opening Height is **not required**	O ✓	**Depth:** Inboard edge of lift upright to outermost point of lift in stowed position
H	**Overall Lift Width:** Outermost edge of front upright to outermost edge of rear upright	P	**Maximum Projected Distance:** Interior vehicle wall to outboard end of platform with platform at maximum lowered position

Dimension	Dimensions per Lift Model					
	L211U58ARS	L211U64ARS	L211U67ARS	L211U68ARS	L211U70ARS	L211U325170
A *	59-15/16"	65-7/8"	68-7/8"	69-7/8"	71-7/8"	71-7/8"
B *	60-1/2"	66-1/2"	69-1/2"	70-1/2"	72-1/2"	72-1/2"
C * ✗	56"	56"	56"	56"	56"	56"
D * †	57-1/2"	57-1/2"	57-1/2"	57-1/2"	57-1/2"	57-1/2"
E	58"	64"	67"	68"	70"	70"
F	56-7/8"	62-9/16"	65-3/8"	66-5/16"	68-1/4"	68-1/4"
G	58"	64"	67"	68"	70"	70"
H	44-1/2"	44-1/2"	44-1/2"	44-1/2"	44-1/2"	46-1/2"
I *	42"	42"	42"	42"	42"	44"
J	33-1/8"	33-1/8"	33-1/8"	33-1/8"	33-1/8"	35-1/8"
K	30"	30"	30"	30"	30"	32"
L	48"	48"	48"	48"	48"	48"
M	37"	46"	50"	50"	52"	52"
N	19°	19°	19°	19°	19°	19°
O ✓	14"	14"	14"	14"	14"	14"
P	79"	81-5/8"	82-15/16"	82-15/16"	83-9/16"	83-9/16"

* Indicates dimensions specifying vehicle requirements.

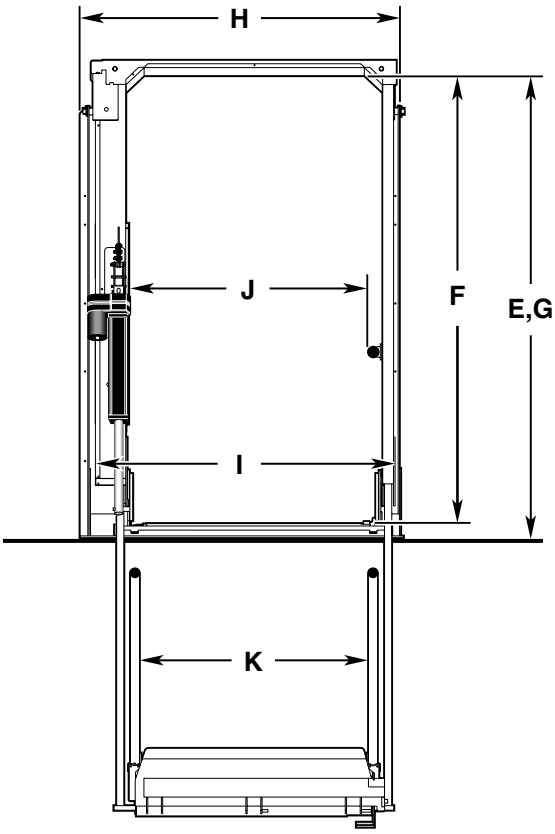
✗ **Dimension C** can be reduced (shortened) by 4" if lift is **not equipped** with **ADA** handrails.

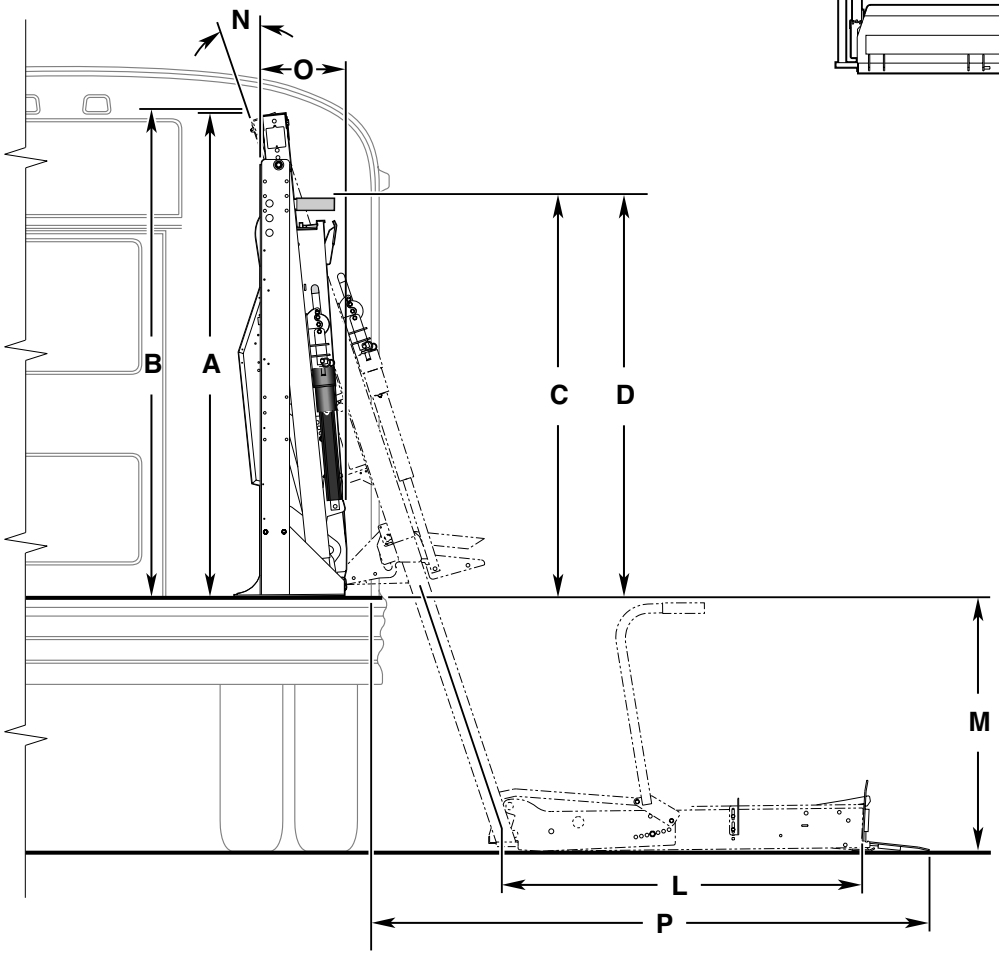
† **ADA Vertical Passageway Requirements:** ADA Specifications: 56" for vehicles under 22 feet long / 68" for vehicles over 22 feet long. **Note: An additional 1-1/2" must be added** to Dimension C due to thickness (height) of lift bridge plate **to meet this requirement**.

✓ Depth can be reduced to 12" if the Minimum Clear Door Opening Width is increased to 43" and the actuator motor is rotated 90° to the "Rear facing" direction. See pages 32 and 33 for **Actuator "Quick-Rotation" Instructions**.

L211 Series Lift Dimensions

Important: Minimum Clear Door Opening Dimensions are defined as finished door opening, including any intrusive door jambs, headers, sills or hinges. Any intrusive obstructions within the Clear Door Opening **must** be removed. See the Pre-Installation Notes for details.





Lift Installation Checklist

Installation Date: _____ Installed By: _____

Lift Model: _____ Inspected By: _____

Lift Serial Number: _____

Warranty/Registration card processed by: _____ Date: _____

☑ Positioning/Clearance Checklist

☐ Is the lift centered in the door opening with the lift base plate parallel (aligned) with the door opening (at floor level)?

Viewing the lift from outside the vehicle:

☐ Are the lift uprights perpendicular (90°) to the vehicle floor as well as aligned and parallel with the sides of the door jamb (page 21 - points 7, 8 and 9)?

Viewing the lift from "rear" to "front" of the vehicle:

☐ Are the lift uprights aligned and parallel with each other (page 21 - point 10)?

☐ Straight Wall Vehicles: Are the lift uprights perpendicular (90°) to the vehicle floor (page 21 - point 11)?

Viewing the lift from outside the vehicle, when unfolding and folding the lift:

☐ Does the lower portion of the cylinder channel clear the "rear" side of the door opening (page 21 - point 1)?

☐ Does the fold actuator motor clear the "rear" side of the door opening (if rotated to the "rear" facing position)? See page 21 - point 2.

☐ Does the "front" side horseshoe tube clear the "front" side of the door opening (page 21 - point 3)?

☐ Is there a minimum 1/8" clearance between the bridge plate assembly and any obstruction (sill, threshold, etc.) at the bottom of the door opening (page 21 - point 5)?

☐ Does the lift header clear the vehicle roof (or curved wall) in both the folded and unfolded positions (page 21 - point 6)?

☐ Handrails (if equipped): Do the handrails operate properly (folding/unfolding), and are the handrails properly aligned (clear lift horseshoe)?

Continued on Next Page

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Lift Installation Checklist

When lowering and raising the platform:

- ❑ Is there a **minimum 1" clearance** between the platform and the side of the vehicle (page 21 - point 4)?

- ❑ Is there an equal amount of clearance between the whales and platform side plates on **both** sides of the platform, and are the whales and platform fold bearings in alignment? See page 22.

- ❑ Is the platform angle properly adjusted? See pages 30 and 31. **Note:** Be certain to adjust the adjustable handrail stop brackets as needed **after** adjusting the platform angle (if equipped).

Installation Details Checklist

- ❑ Is the Circuit Sentry installed correctly and is the lift power cable routed and secured as detailed on pages 16 and 17?

- ❑ Is the control box mounted to door as detailed and is the control box cable routed and secured as detailed on pages 18 and 19? **Note:** Open and close the door, and function the lift through cycles to be certain the control box and cable clear door and other moving parts.

- ❑ Are the two top “L” mounting brackets **each** secured to the uprights as detailed on page 24? Have the “L” brackets been cut off flush with the interior edge of the uprights? Have the sharp edges been filed or ground off?

- ❑ Are the two top “L” mounting brackets **each** secured through the vehicle wall as detailed on page 24?

- ❑ Is the base plate secured through the vehicle floor with four bolts (pages 25 and 26)?

- ❑ Have all decals been posted on the vehicle interior door panel next to the lift control box (page 26)?

- ❑ Have any necessary Quiet-Ride adjustments been made as outlined on pages 27-29?

- ❑ Has the optional padding kit been installed (if applicable)?

- ❑ Is the lift owner's (operator's) manual stored in the lift-mounted storage pouch for the consumer?

- ❑ Has The Braun Corporation Warranty/Registration card been filled out, processed and mailed to The Braun Corporation?

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Daily Preventive Maintenance Schedule

Vehicle Number: _____ Date: _____

Inspector: _____

Pre-Trip Inspection:

Before each scheduled day of lift service, operate lift **minimum one complete cycle** and inspect each of the following :

- ☑ Does the lift interlock (if equipped) function as intended?
- ☐ Does the lift cargo door light (if equipped) function as intended?
- ☐ Does the lift deploy when the lift interlock is activated as intended?
- ☐ Does the lift safely clear the cargo door as the lift is deployed and stowed?
- ☐ Does the lift operate smoothly (no jerking or abnormal movement)?
- ☐ Does the lift operate at normal speed?
- ☐ Is the lift power source adequate?
- ☐ Does the roll stop(s) operate properly?
- ☐ Does the outboard roll stop latch operate properly?
- ☐ Do the handrails operate properly?
- ☐ Is the platform angle normal?
- ☐ Is lift operation quiet (no rattles, abnormal sounds, etc.)?
- ☐ Has the hand-held switch box cable been damaged?
- ☐ Do the lift control switches function properly?
- ☐ Do the lift cargo door securement devices function as intended?
- ☐ Is the manual back-up pump handle in place?
- ☐ Is the hand pump valve closed securely (tight)?
- ☐ Are the lift-posted and door-posted decals worn, missing or illegible?
- ☐ Is the lift protective padding (if equipped) in place, worn or damaged?
- ☐ Can you visually detect any lift wear, damage, misalignment, hydraulic leaks, loose bolts, broken welds or any abnormal conditions?

Post-Trip Inspection:

Operate lift **minimum one complete cycle** and check each of the above daily pre-trip inspections **if applicable** for your daily inspection routine (outlined by your transit agency).

- ☐ Clean lift surfaces where wheelchairs travel
- ☐ Clean and lubricate key locations based on lift usage frequency and climate conditions (outlined by your transit agency). Lubrication procedures should be performed by transit agency maintenance personnel.

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International Corporate Hdqrs: P.O. Box 310 Winamac, IN 46996 USA
1-800-THE LIFT (574) 946-6153 FAX: (574) 946-4670

Braun "Worry-Free" Three-Year Limited Warranty

The Braun Corporation of Winamac, Indiana, warrants its wheelchair lift against defects in material and workmanship for three years, providing the lift is operated and maintained properly and in conformity with this manual. This warranty is limited to the original purchaser and does not cover defects in the motor vehicle on which it is installed, or defects in the lift caused by a defect in any part of the motor vehicle.

This warranty commences on the date the lift is put in service, providing the warranty registration card is completed and received by The Braun Corporation within 20 days of purchase.

This warranty also covers the cost of labor for the repair or replacement of most parts for one year when performed by an authorized Braun Representative. (A Braun labor schedule determines cost allowance for repairs.)

This warranty does not cover normal maintenance, service, or periodic adjustments necessitated by use or wear. The Braun Corporation will not, under any circumstances, pay for loss of use of lift or vehicle in which it is installed or loss of time.

This warranty will become null and void if the lift has been damaged through accident, misuse, or neglect, or if the lift has been altered in any respect.

Return Authorization Procedure

When processing any warranty claims (parts, repairs, etc.), all requests must be processed through The Braun Corporation Product Support Department. Call 1-800-THE LIFT (extension 3009) during normal working hours. Product Support will issue a Return Material Authorization (RMA) number and detail the procedures required for processing returns and/or authorizing credit.

The lift identification information is provided on the Braun Serial No./Series No. identification tag and the two warranty cards (shown on inside front cover). The lift identification information must be provided when filing a warranty claim or ordering parts.

Applicable for Series 05 and 06 L200UARS Wheelchair Lifts

MADE IN AMERICA

THE BRAUN CORPORATION®
631 West 11th St., P.O. Box 310, Winamac, IN 46996
1-800-THE LIFT In Indiana Call: (574) 946-6153 FAX: (574) 946-4670

All illustrations, descriptions and specifications in this manual are based on the latest product information available at the time of publication. The Braun Corporation reserves the right to make changes at any time without notice.

25783 March 2002

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